

Search history

Search PN=(WO2016064544) (Results 1)

1:

Search [SP]: 1. a method of wireless communication comprising: identifying a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier receiving an indication of a duration of the downlink tti during the downlink tti receiving an indication of a duration of an uplink tti that follows the downlink tti, wherein the indication of the duration of the uplink tti is received during the downlink tti and communicating based at least in part on the indication of the duration of the downlink tti and the indication of the duration of the uplink tti. 2. the method of claim 1, further comprising: receiving a downlink grant during the downlink tti, wherein the downlink grant assigns a first set of resources during the downlink tti. 3. the method of claim 2, further comprising: receiving an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti receiving an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, wherein the indication of the duration of the subsequent uplink tti is received during the subsequent downlink tti and communicating based at least in part on the indication of the duration of the subsequent downlink tti and the indication of the duration of the subsequent uplink tti. 4. the method of claim 1, wherein the indication of the duration of the uplink tti indicates that the duration of the uplink tti is zero. 5. the method of claim 4, wherein the duration of the downlink tti and a duration of a subsequent downlink tti form a downlink burst that is time division multiplexed on resources of the tdd configured carrier. 6. the method of claim 1, wherein the communicating comprises: receiving a set of transport blocks (tbs) during the downlink tti, wherein the downlink tti comprises a variable tti determining hybrid automatic repeat request (harq) feedback for each tb of the set of tbs, wherein a number of tbs in the set of tbs is based at least in part on the duration of the downlink tti and transmitting the harq feedback for at least one tb of the set of tbs during the uplink tti. 7. the method of claim 6, further comprising: determining harq feedback for a number of code blocks (cbs), wherein each tb of the set of tbs comprises at least one cb, and wherein a quantity of cbs in each tb is based at least in part on a size of each tb and transmitting the harq feedback for the number of cbs during the uplink tti. 8. the method of claim 1, further comprising: entering a low power state during the downlink tti or the uplink tti based at least in part on an absence of a grant of resources during the downlink tti or the uplink tti. 9. an apparatus for wireless communication comprising: means for identifying a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier means for receiving an indication of a duration of the downlink tti during the downlink tti means for receiving an indication of a duration of an uplink tti that follows the downlink tti, wherein the indication of the duration of the uplink tti is received during the downlink tti and means for communicating based at least in part on the indication of the downlink tti and the indication of the uplink tti. 10. the apparatus of claim 9, further comprising: means for receiving a downlink grant during the downlink tti, wherein the downlink grant assigns a first set of resources during the downlink tti. 11. the apparatus of claim 10, further comprising: means for receiving an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti means for receiving an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, wherein the indication of the duration of the subsequent uplink tti is received during the subsequent downlink tti and means for communicating based at least in part on the indication of the duration of the subsequent downlink tti and the indication of the duration of the subsequent uplink tti. 12. the apparatus of claim 9, wherein the indication of the duration of the uplink tti indicates that the duration of the uplink tti is zero. 13. the apparatus of claim 12, wherein the duration of the downlink tti and a duration of a subsequent downlink tti form a downlink burst that is time division multiplexed on resources of the tdd configured carrier. 14. the apparatus of claim 9, wherein the means for communicating comprises means for receiving a set of transport blocks (tbs) during the downlink tti, wherein the downlink tti comprises a variable tti, and wherein the apparatus further comprises: means for determining hybrid automatic repeat request (harq) feedback for each tb of the set of tbs, wherein a number of tbs in the set of tbs is based at least in part on the duration of the downlink tti and means for transmitting the harq feedback for at least one tb of the set of tbs during the uplink tti. 15. the apparatus of claim 14, further comprising: means for determining harq feedback for a number of code blocks (cbs), wherein each tb of the set of tbs comprises at least one cb, and wherein a quantity of cbs in each tb is based at least in part on a size of each tb and means for transmitting the harq feedback for the number of cbs during the uplink tti. 16. the apparatus of claim 9, further comprising: means for entering a low power state during the downlink tti or the uplink tti based at least in part on an absence of a grant of resources during the downlink tti or the uplink tti. 17. an apparatus for wireless communication, comprising: a processor memory in electronic communication with the processor and instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to: identify a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier receive an indication of a duration of the downlink tti during the downlink tti receive an indication of a duration of an uplink tti that follows the downlink tti, wherein the indication of the duration of the uplink tti is received during the downlink tti and communicate based at least in part on the indication of the duration of the downlink tti and the indication of the duration of the uplink tti. 18. the apparatus of claim 17, wherein the instructions are operable to cause the apparatus to: receive a downlink grant during the downlink tti, wherein the downlink grant assigns a first set of resources during the downlink tti. 19. the apparatus of claim 18, wherein the instructions are operable to cause the apparatus to: receive an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti receive an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, wherein the indication of the duration of the subsequent uplink tti is received during the subsequent downlink tti and communicate based at least in part on the indication of the duration of the subsequent downlink tti and the indication of the duration of the subsequent uplink tti. 20. the apparatus of claim 17, wherein the indication of the duration of the uplink tti indicates that the duration of the uplink tti is zero. 21. the apparatus of claim 20, wherein the duration of the downlink tti and a duration of a subsequent downlink tti form a downlink burst that is time division multiplexed on resources of the tdd configured carrier. 22. the apparatus of claim 17, wherein the instructions are operable to cause the apparatus to: receive a set of transport blocks (tbs) during the downlink tti, wherein the downlink tti comprises a variable tti determine hybrid automatic repeat request (harq) feedback for each tb of the set of tbs, wherein a number of tbs in the set of tbs is based at least in part on the duration of the downlink tti and transmit the harq feedback for at least one tb of the set of tbs during the uplink tti. 23. the apparatus of claim 22, wherein the instructions are operable to cause the apparatus to: determine harq feedback for a number of code blocks (cbs), wherein each tb of the set of tbs comprises at least one cb, and wherein a quantity of cbs in each tb is based at least in part on a size of each tb and transmit the harq feedback for the number of cbs during the uplink tti. 24. the apparatus of claim 17, wherein the instructions are operable to cause the apparatus to: enter a low power state during the downlink tti or the uplink tti based at least in part on an absence of a grant of resources during the downlink tti or the uplink tti. 25. a non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable to: identify a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier receive an indication of a duration of the downlink tti during the downlink t (Results 0)

Search [SP]: cross references [0001] the present application for patent claims priority to u.s. provisional patent application no. 62/068,416, entitled "feedback for variable transmission time intervals," filed oct. 24, 2014, and u.s. provisional patent application no. 62/075,624, entitled "flexible multiplexing operation for downlink data," filed nov. 5, 2014, assigned to the assignee hereof, and expressly incorporated by reference herein. background [0002] 1. field of disclosure [0003] the following relates generally to wireless communication, and more specifically to flexible multiplexing operation for downlink (dl) data and hybrid automatic repeat request (harm) feedback for variable transmission time interval (tti), including variable ttis for enhanced component carriers (ecc).[0004] 2. description of related art [0005] wireless communications systems are widely deployed to provide various types of communication content such as voice, video, packet data, messaging, broadcast, and so on. these systems may be multiple-access systems capable of supporting communication with multiple users by sharing the available system resources (e.g., time, frequency, and power). examples of such multiple-access systems include code division multiple access (cdma) systems, time division multiple access (tdma) systems, frequency division multiple access (fdma) systems, and orthogonal frequency division multiple access (ofdma) systems, (e.g., a long term evolution (lte) system).[0006] by way of example, a wireless multiple-access communications system may include a number of base stations, each simultaneously supporting communication for multiple communication devices, which may be otherwise known as user equipment (ues). a base station may communicate with the communication devices on downlink channels (e.g., for transmissions from a base station to a ue) and uplink channels (e.g., for transmissions from a ue to a base station).[0007] some wireless systems may employ time division duplexing (tdd), in which the same frequency resources are used for ul and dl transmissions. in such systems, a multiplexing mode may be selected to serve multiple ues. for example, a base station may choose to switch to ul after transmitting data to a single ue, after transmitting to multiple ues one after the other, or after transmitting to multiple ues that are allocated different frequency ranges. however, each method may result in a different tradeoffs between latency, resource efficiency, and scheduling flexibility.[0008] increasingly, many wireless applications benefit from reduced latency communication. additionally, wide bandwidth carriers and spectrum sharing (e.g., unlicensed spectrum use) have introduced more flexibility, and a greater number of variables for efficient system operation, including issues related to efficient feedback to maintain low latency. summary [0009] methods, systems, and apparatuses for flexible multiplexing operation for dl data are described. within a tdd system, for example, a multiplexing configuration may be selected or identified based on latency and efficiency considerations. a base station may implement the multiplexing configuration by transmitting a combination of a resource grant, a signal indicating the length of a downlink (dl) transmission time interval (tti), and a signal indicating the length of a subsequent uplink (ul) tti to one or more user

equipment (ues). if the latency and efficiency considerations change, the base station may dynamically select a new multiplexing configuration by, for example, setting the length of an ul tti to zero or assigning multiple ues resources in the same dl tti.[0010] additionally, methods, systems, and apparatuses for providing feedback for systems employing variable tti are described. latency for downlink feedback may be reduced by employing block feedback, including block hybrid automatic repeat request (harq) feedback for an ecc. a ue, for example, may receive a set of transport blocks (tbs) in a variable downlink tti. the ue may determine harq feedback for each tb of the set of tbs, and the number of tbs in the set may be based on a time duration of the variable downlink tti. the ue may transmit, in an uplink tti following the downlink tti, the harq feedback for each tb. in some cases, harq feedback may be bundled for two or more tbs of the set of tbs if, for instance, a maximum number of harq resources for the uplink tti would otherwise be exceeded.[0011] uplink feedback may also improve latency. for instance, a ue may receive a grant for an uplink tb or for a retransmission of an uplink tb. the ue may determine that the grant represents an acknowledgment (ack) when the grant is for an original transmission tb, or the ue may determine that the grant represents a negative acknowledgment (nack) when the grant is for a retransmission of a tb.[0012] additionally or alternatively, uplink transmissions may be multiplexed in a way that improves latency. a base station, for example, may receive a first set of harq feedback for each tb of a first set of tbs, transmitted using a variable downlink tti, from a first ue during a first uplink tti. the base station may also concurrently receive a second set of harq feedback for each tb of a second set of tbs from a second ue during the first uplink tti.[0013] a method of wireless communication is described. the method may include identifying a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, receiving an indication of a duration of the downlink tti during the downlink tti and receiving an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti. the method may also include communicating based at least in part on the indication of the downlink tti and the indication of the uplink tti.[0014] an apparatus for wireless communication is described. the apparatus may include means for identifying a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, means for receiving an indication of a duration of the downlink tti during the downlink tti, and means for receiving an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti and the means for communicating may be operable based at least in part on the indication of the downlink tti and the indication of the uplink tti.[0015] a further apparatus is described. the apparatus may include a processor, memory in electronic communication with the processor, and instructions stored in the memory. the instructions may be operable to cause the apparatus to identify a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, receive an indication of a duration of the downlink tti during the downlink tti, and receive an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti. the instructions may also be operable to cause the apparatus to communicate based at least in part on the indication of the downlink tti and the indication of the uplink tti.[0016] a non-transitory computer readable medium for wireless communication is described. the non-transitory computer-readable medium may include instructions executable to identify a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, receive an indication of a duration of the downlink tti during the downlink tti, and receive an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti. the instructions may also be executable to communicate based on the indication of the downlink tti and the indication of the uplink tti.[0017] some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving a downlink grant during the downlink tti, where the downlink grant assigns a first set of resources during the downlink tti.[0018] some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving an additional downlink grant that assigns a second set of resources during the downlink tti.[0019] in some examples of the method, apparatus, or non-transitory computer-readable medium described above, the first set of resources and the second set of resources are frequency division multiplexed (fdm) during the downlink tti.[0020] some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving a subsequent downlink grant during a subsequent downlink tti that follows the downlink tti. some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti. some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, where the indication of the duration of the subsequent uplink tti is received during th (Results 12)

Search [SP]: flexible multiplexing and feedback for variable transmission time intervals methods, systems, and devices for wireless communication
4: are described. a base station may employ a multiplexing configuration based on latency and efficiency considerations. the base station may transmit a resource grant, a signal indicating the length of a downlink (dl) transmission time interval (tti), and a signal indicating the length of a subsequent uplink (ul) tti to one or more user equipment (ues). the base station may dynamically select a new multiplexing configuration by, for example, setting the length of an ul tti to zero or assigning multiple ues resources in the same dl tti. latency may also be reduced by employing block feedback, such as block hybrid automatic repeat request (harq) feedback. a ue may determine and transmit harq feedback for each transport block (tb) of a set of tbs, which may be based on a time duration of a downlink tti. (Results 12)

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5: 43649373 or 49461910 or 57403526 or 54949759) (Results 11)

Search method and wireless and communication and TTI (Results 11532)
6:

Search 6 and TDD and UL and DL and downlink and uplink and time and interval and duplex and multiplex* and network (Results 2950)
7:

Search 7 and HARQ and hybrid and repeat and request (Results 2355)
8:

Search 8 and memor* and (processor* or controller*) and computer and (device* or apparatus* or system*) (Results 948)
9:

Search 9 and transmit* and user* and block* and feedback and (flexible or variable) (Results 401)
10:

Search 10 and PD<20141024 (Results 128)
11:

Search (11) AND IPC=(H04) (Results 128)
12:

Title: RANDOM ACCESS FAILURE IN **WIRELESS DEVICE** MULTIPLE TIMING ADVANCE GROUPS

Abstract: Source: US2013188473A [EN] A **wireless device** receives a control command to **transmit** a random access preamble on a first secondary cell. The **wireless device repeatedly transmits** the random access preamble until a random access response corresponding to the random access preamble is received or a predetermined number of transmissions is reached. If the predetermined number of transmissions is reached without receiving the random access response, the **wireless device** stops transmission of the random access preamble and keeps a connection with the base station active.

Classifications:

International (IPC 8-9): H04B7/212 H04B7/26 H04J11/00 H04J3/00

H04J3/06 H04J3/22 H04L1/18 H04L12/24 H04L12/26 H04L27/18
H04L27/26 H04L29/06 H04L29/12 H04L5/00 H04L5/14 H04W12/10

H04W28/00 H04W28/18 H04W36/00 H04W36/08 H04W36/30

H04W36/38 H04W4/00 H04W40/00 H04W48/00 H04W52/02

H04W52/04 H04W52/06 H04W52/14 H04W52/18 H04W52/22

H04W52/24 H04W52/28 H04W52/30 H04W52/32 H04W52/34

H04W52/36 H04W52/38 H04W52/40 H04W52/50 H04W52/54

H04W56/00 H04W72/00 H04W72/04 H04W72/08 H04W72/10

H04W72/12 H04W74/00 H04W74/08 H04W76/00 H04W76/02

H04W76/04 (Advanced/Invention);

H04J11/00 H04L1/18 H04L27/32 H04L29/06 H04L5/00 H04W12/10 H04W28/06 H04W28/18 H04W36/00 H04W36/04

H04W36/08 H04W36/38 H04W52/14 H04W52/18 H04W52/22 H04W52/24 H04W52/36 H04W52/40 H04W52/50

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IPC: H04W72/005 H04W72/048 H04W52/281 H04W36/30 H04W72/085 H04W4/18 H04W92/10 H04L27/261 H04L27/2662

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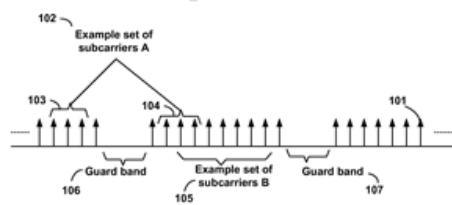
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455/418 455/422.1 455/422.5 455/425 455/432.1 455/434 455/443 455/450 455/452.1 455/464 455/522

PatBase - US2013188473_AA



Family:

Publication number	Publication date	Application number	Application date
DE602013026126 D1	20171019	DE201360026126T	20130414
EP2807883 A1	20141203	EP20130702187	20130124
EP2807884 A1	20141203	EP20130703238	20130125
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US20160201568	20160704	US20160201527	20160704	US20160201529	20160704
US20170490496	20170418	US20170645573	20170710	US20170657903	20170724
US20170682025	20170821				

Probable Assignee: COMCAST CABLE COMMUNICATIONS LLC

Assignee(s): (std): COMCAST CABLE COMM LLC ; COMCAST CABLE COMMUNICATIONS LLC ; DINAN ESMAEL HEJAZI ; OFINNO TECHNOLOGIES LLC ; OFINNE TECHNOLOGIES LLC ; DINAN HEJAZI ESMAEL ; OTINNO TECHNOLOGIES LLC ; OFINNO TECH LLC

Assignee(s): OFINNO TECHNOLOGY LLC ; COMCAST CABLE COMMUNICATIONS LLC PHILADELPHIA

Inventor(s): (std): DINAN ESMAEL HEJAZI ; DINAN HEJAZI ESMAEL

Inventor(s): DINAN ESMAEL HEJAZI HERNDON

Agent(s): WESTPHAL MUSSGNUG AND PARTNER PATENTANWALTE MIT BESCHRAENKTER BERUFSHAFTUNG; PATENTANWALTE WESTPHAL MUSSGNUG AND PARTNER; WESTPHAL MUSSGNUG AND PARTNER PATENTANWALTE MBB; WESTPHAL MUSSGNUG AND PARTNER PATENTANWALTE MBB; ESMAEL; DAVID; ESMAEL H; BANNER AND WITCOFF LTD; DINAN ESMAEL HEJAZI

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: OPERATIONAL CONSTRAINTS IN LTE FDD **SYSTEMS** USING RF AGILE BEAM FORMING TECHNIQUES

Abstract: Source: US2013336174A [EN] **Methods** and **systems** having improved capabilities are described for providing **communications** to a plurality of cellular mobile **devices** through generating m different sets of fixed position patterns of N RF beams across the ten contiguous one-millisecond LTE sub-frames of each LTE **time**-division **duplexing (TDD)** frame from an agile beam forming antenna **system** of a cellular LTE base transceiver station. The cellular LTE base transceiver station is in RF **TDD communication** with the plurality of cellular mobile **devices** within a cell coverage area of the cellular LTE base transceiver station. Each RF beam covers a sub-area of the cell coverage area where the m **times** N RF beam patterns cover the area of the cell coverage area. The value of m is 1@m@3 and each one of the m sets of N RF beam patterns is generated in one or more of the non-S one-millisecond sub-frames of an LTE frame. The m sets of N RF beams are generated across any ten contiguous one-millisecond sub-frames. The value of m is determined at least in-part from a selected LTE **TDD** **uplink/downlink** (U/D) configuration.

Classifications:

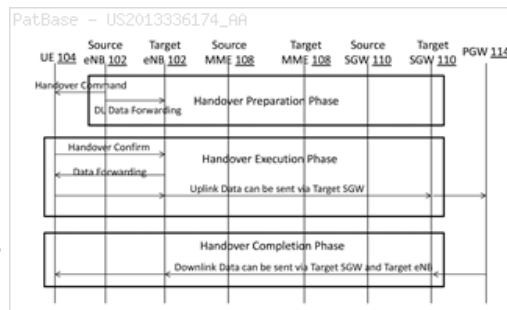
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H04W (Subclass/Invention)

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US: 1/1 370/230 370/232 370/235 370/238 370/280 370/281 370/315 370/328 370/329 370/331 455/408 455/411 455/416 455/436 455/445 455/452.1 455/456.1 455/513 455/562.1 455/63.4 455/67.11 709/219 714/4.11 726/7



Family:

Publication number	Publication date	Application number	Application date
CA2874867 AA	20141126	CA20132874867	20130613
CN104662994 A	20150527	CN201380043132	20130613
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Probable Assignee: ALL PURPOSE NETWORKS LLC

Assignee(s): (std): ALL PURPOSE NETWORKS LLC

Assignee(s): ALL PURPOSE NETWORKS LLC19 CHESTERFIELD DRIVECHESTERNJ07930US ; BREWINGTON JAMES KEITH ; POTICNY DAVID M ; SAWKAR ANIL S ; RUBIN HARVEY

Inventor(s): (std): BREWNGTON JAMES KETH ; POTCNY DAVD M ; POTICNY DAVID M ; BREWINGTON JAMES KEITH ; RUBIN HARVEY ; RUBN HARVEY ; SAWKAR ANIL S ; SAWKAR ANL S

Inventor(s): SAWKAR ANIL SUS ; RUBIN HARVEYUS ; BREWINGTON JAMES KEITHUS ; POTICNY DAVID MUS

Agent(s): BORDEN LADNER GERVAIS LLP; NAISMITH ROBERT STEWART; MCGLASHAN GRAHAM STEWART; NISHIJIMA TAKAKI; OHTSUKA FUMIAKI; KUMAKURA YOSHIO; SUDA HIROYUKI; KONDO NAOIKI; UESUGI HIROSHI; GTC LAW GROUP LLP AND AFFILIATES; GTC LAW GROUP PC AND AFFILIATES; ZAVORAL JULIE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** CONTROL INFORMATION IN A **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2012269138A [EN] The present invention relates to a **wireless communication system**. More particularly, the present invention relates to a **method** for **transmitting** a signal via physical **uplink** control channel (PUCCH) in a **wireless communication system**, and to an **apparatus** for the **method**, wherein the **method** is configured such that a terminal **transmits** a signal via the PUCCH and multiple antennas, and comprises the following steps: obtaining a first modulated symbol sequence from control information; performing a spreading process on modulated symbols corresponding to each of the slots in the PUCCH from among the first modulated symbol sequence, such that the modulated symbols corresponding to the respective single carrier frequency division **multiplexing** (SC-FDMA) symbols in the relevant slot, so as to obtain a plurality of spread second modulated symbol sequences corresponding to the respective SC-FDMA symbols in each slot; and **transmitting**, in the relevant SC-FDMA symbols in the PUCCH, the plurality of spread second modulated symbol sequences via multiple antennas, wherein resources used in the transmission via the PUCCH are orthogonal to one another between antenna ports.

Classifications:

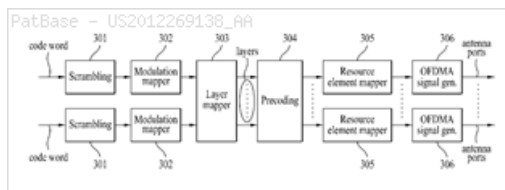
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US: 1/1 370/210 370/229 370/252 370/278 370/280 370/281 370/311 370/328 370/329 370/330 370/334 370/335 370/336 370/344 370/430



Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHUNG JAE HOON ; CHUNG JAEHOON ; HAN SEUNG HEE ; HAN SEUNGHEE ; KWON YEONG HYEON ; LG ELECTRONICS INC ; LEE MOON IL ; LEE HYUN WOO ; LEE HYUNWOO ; LEE MOON II ; L G ELECTRONICS INC ; MOON SUNG HO ; MOON SEONG HO

Inventor(s): (std): CHEONG JAI HEUN ; CHUNG JAE HOON ; CHUNG JAEHOON ; HAN SEUNG HEE ; HAN SEUNGHEE ; HAN SUNG HEE ; HEE HAN SEUNG ; HO MOON SUNG ; HOON CHUNG JAE ; HYEON KWON YEONG ; KWON YEONG HYEON ; LEE HYUN ROO ; LEE HYUN WOO ; LEE HYUNWOO ; LEE II MOON ; LEE MOON II ; LEE MOON IL ; LEE MOON LL ; LEE MOONIL ; MOON SUNG HO ; MOON SUNGHO ; IL LEE MOON ; WOO LEE HYUN

Inventor(s): JAE HOON CHUNG ; SEUNG HEE HAN ; SEUNGHEE HAN ; SUNG HO MOON ; MOON IL LEE ; HYUN WOO LEE ; HYUNWOO LEE

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CONTROL CHANNELS IN MULTICARRIER OFDM TRANSMISSION

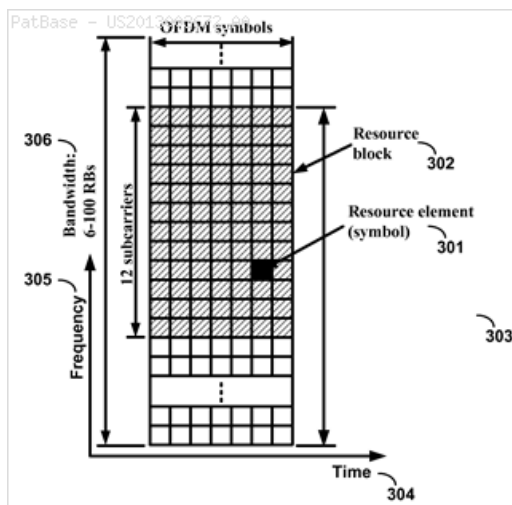
Abstract: Source: US2013003672A [EN] A base station **transmits** control information on a subframe of a first carrier starting from the first OFDM symbol of the subframe. The control information provides transmission format and scheduling information for data packets **transmitted** on a first data channel of the first carrier. The base station **transmits** a control message on the first data channel to a **wireless device**. The control message configures radio resources of a second data channel to start from the first OFDM symbol of subframes of a second carrier. The base station **transmits** data packets on the second data channel.

Classifications:

International (IPC 8-9): H04B7/06 H04B7/216 H04J3/00 H04J3/06 H04L1/00 H04L1/18 H04L12/24 H04L12/26 H04L27/26 H04L5/00 H04W16/02 H04W4/00 H04W48/12 H04W52/02 H04W72/04 H04W72/12 H04W76/04 (Advanced/Invention); H04J11/00 H04L5/00 H04W24/00 H04W72/00 H04W72/12 H04W88/08 H04W88/10 (Advanced/Non-invention)

CPC: H04W48/10 H04W72/0406 H04W24/00 H04W72/1278 H04W48/12 H04W88/10 H04W16/02 H04L27/2601 H04W72/00 H04L5/0023 H04L5/0053 H04L5/0055 H04L1/00 H04L5/0091 H04W52/0206 H04W72/1289 H04J11/0069 H04L5/001 H04L5/005 H04L5/0073 H04L27/2692 H04W88/08 H04W72/1226 H04W72/042 H04L41/0806 H04L5/0007 H04W72/0453 H04L5/0025 H04B7/0617 H04L1/1812 H04L1/1861 Y02D70/1262 Y02D70/1264 Y02D70/142 Y02D70/144 Y02D70/146 Y02D70/23 Y02D70/24 H04W76/27

US: 1/1 370/208 370/329 370/330 370/344 370/510 370/514 455/450

**Family:**

Publication number	Publication date	Application number	Application date
DE602012005329 D1	20150402	DE201260005329T	20120628
DE602012007621 D1	20150709	DE201260007621T	20120703
DE602012043251 D1	20180322	DE201260043251T	20120703
EP2564611 A1	20130306	EP20120738291	20120628
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Priority:

US20110503625P	20110701	US20110504257P	20110704	US20110523124P	20110812
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US20120535530	20120628	WO2012US44665	20120628	US20120537415	20120629
US20120539586	20120702	EP20120741415	20120703	EP20140200113	20120703
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US20130139287	20131223	US20140194704	20140301	US20140194708	20140301
US20140337273	20140722	US20140558095	20141202	US20150659665	20150317
US20150947021	20151120	US20150955718	20151201	US20160992679	20160111

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Inventor(s): DINAN ESMAEL HEJAZI HERNDORN ; DINAN ESMAEL HEJAZI VA

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND APPARATS FOR PERFORMING EFFICIENT **FEEDBACK** IN **WIRELESS COMMUNICATION SYSTEM** SUPPORTING MULTIPLE ANTENNA

Abstract: Source: US2012076023A [EN] A **method** for **transmitting** channel status information (CSI) of **downlink** transmission via **uplink** in a **wireless communication system** includes **transmitting** a rank indicator (RI) and a precoder type indicator (PTI) at a first subframe, **transmitting** at a second subframe a first precoding matrix indicator (PMI) when the PTI has a first value and **transmitting** a second PMI and a wideband channel quality indicator (WB CQI) when the PTI has a second value, and **transmitting** at a third subframe a second PMI and a WB CQI when the PTI has a first value and **transmitting** a subband (SB) CQI and a second PMI when the PTI has a second value. A **user** equipment (UE) preferred precoding matrix is indicated by a combination of the first PMI and the second PMI. Subsampled codebooks of precoding codebooks of individual Rank-2, Rank-3 and Rank-4 are applied to the second PMI.

Classifications:

International (IPC 8-9): H04B17/24 H04B7/00 H04B7/02 H04B7/04 H04B7/0417 H04B7/0456 H04B7/06 H04B7/10 H04B7/26 H04J11/00 H04J99/00 H04K1/02 H04L1/00 H04L1/02 H04L1/06 H04L1/16 H04L1/18 H04L12/26 H04L25/03 H04L25/49 H04L27/26 H04L29/08 H04L5/00 H04W16/28 H04W24/00 H04W24/04 H04W24/10 H04W28/04 H04W28/06 H04W28/10 H04W4/00 H04W48/08 H04W52/40 H04W72/00 H04W72/04 H04W72/06 H04W72/08 H04W80/04 H04W84/12 H04W88/02 H04W88/08 (Advanced/Invention); H04B7/04 H04B7/06 H04J11/00 H04L1/16 H04L1/18 H04L25/03 H04L5/00 H04W24/10 H04W48/08 H04W72/00 H04W72/04 H04W88/02 H04W88/08 (Advanced/Non-invention)

CPC: H04B7/0621 H04B7/066 H04B7/10 H04B7/0658 H04W88/02

H04W88/08 H04B7/0469 H04L27/2646 H04B7/0482 H04L1/0029

H04L1/1861 H04L25/03898 H04W24/10 H04B7/0617 H04W48/08

H04W72/00 H04B7/0486 H04L1/06 H04L1/0028 H04L5/0057

H04W72/0413 H04L27/2601 H04L1/0031 H04L5/0023 H04L5/03343 H04L2025/03426 H04L2025/03808

H04B7/065 H04B7/068 H04L1/0026 H04L1/0027 H04L1/1671 H04L1/1819 H04L5/0007 H04L5/0053 H04L25/03949 H04B7/063 H04B7/0632 H04B7/0417 H04B7/0626 H04W72/0446 H04B7/0639 H04L5/006 H04B7/0456 H04B7/0478 H04W74/0858

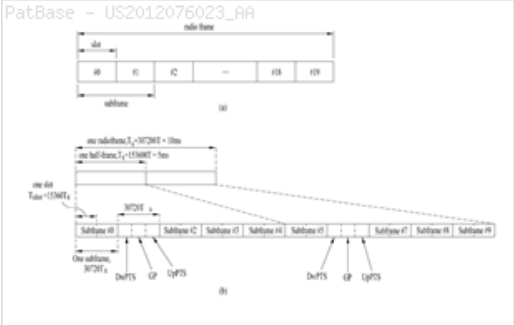
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US: 1/1 370/241 370/248 370/249 370/252 370/252 370/252P 370/328 370/329 370/341 370/344 375/219 375/267 375/296

375/296P 375/299 375/316 375/346 375/347 375/349 455/450 455/69



Family:

Publication number	Publication date	Application number	Application date
CN102934369 A	20130213	CN201180027807	20110412
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **COMMUNICATION** STATE TRANSITIONING CONTROL

Abstract: Source: US2013003577A [EN] Embodiments of the present disclosure describe **devices**, **methods**, **computer-readable media** and **systems** configurations for managing state transitions of **communication** circuitries in **wireless networks**. Embodiments manage radio resource control (RRC) state transitions and/or discontinuous reception (DRX) state transitions. Other embodiments may be described and/or claimed.

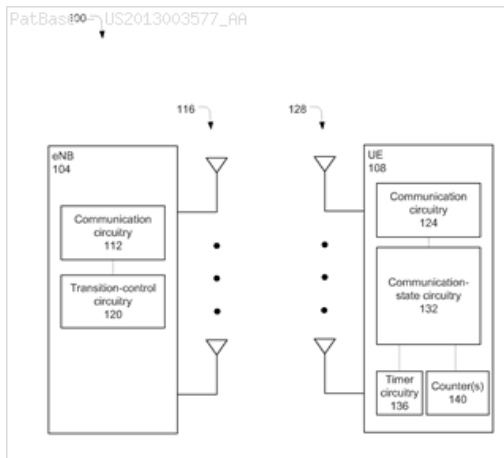
Classifications:

International (IPC 8-9): G06F12/02 G06F15/16 G06F3/06 G06F9/44 G08B21/00 G08C17/00 G11C16/02 H04B1/38 H04B15/00 H04B15/02 H04B7/00 H04B7/005 H04B7/02 H04B7/024 H04B7/04 H04B7/0413 H04B7/0417 H04B7/0456 H04B7/06 H04B7/26 H04H20/71 H04J H04J11/00 H04J3/00 H04J99/00 H04L1/00 H04L1/02 H04L1/06 H04L12/18 H04L12/70 H04L12/709 H04L12/891 H04L25/02 H04L27/26 H04L27/34 H04L27/36 H04L29/06 H04L29/08 H04L5/00 H04L5/14 H04M11/08 H04N21/2343 H04N21/61 H04N21/647 H04N21/845 H04W16/02 H04W16/16 H04W24/00 H04W24/08 H04W28/04 H04W28/06 H04W28/10 H04W36/00 H04W36/14 H04W36/16 H04W4/00 H04W4/06 H04W4/08 H04W4/14 H04W4/18 H04W48/00 H04W48/12 H04W48/16 H04W48/18 H04W52/00 H04W52/02 H04W52/04 H04W52/10 H04W52/14 H04W52/24 H04W52/32 H04W52/36 H04W52/46 H04W52/54 H04W56/00 H04W60/00 H04W68/00 H04W68/02 H04W72/00 H04W72/02 H04W72/04 H04W72/06 H04W72/08 H04W72/10 H04W72/12 H04W76/00 H04W76/02 H04W76/04 H04W76/06 H04W8/00 H04W8/02 H04W8/08 H04W8/18 H04W80/00 H04W80/02 H04W80/08 H04W80/10 H04W84/04 H04W88/02 H04W88/06 H04W88/08 H04W92/02 H04W92/10 H04W92/14 H04W92/20 (Advanced/Invention); H04L1/00 H04L12/18 H04L25/02 H04L27/36 H04W24/08 H04W28/10 H04W36/14 H04W48/12 H04W52/24 H04W52/32 H04W52/36 H04W52/54 H04W84/04 (Advanced/Non-invention); H04B H04J H04L H04W (Subclass/Invention)

International (IPC 1-7): H04B7/26 H04J11/00

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Probable Assignee: INTEL CORP

Assignee(s): (std): INTEL CORP ; GUPTA MARUTI ; KOC ALI T ; JAIN PUNEET K ; LI QINGHUA ; KOC ALI TAHA ; JAIN PUNEET ; HE HONG ; MALTSEV ALEXANDER ; KHORYAEV ALEXEY ; KOC ALI ; INTEL IP CORP ; LNTL CORP ; INTEL KORPOREJSHN ; VANNITHAMBY RATH ; YANG RONGZHEN ; YIN HUJUN ; NIU HUANING ; SHIRANI MEHR HOOMAN ; PAPATHANASSIOU APOSTOLOS ; WANG SHAO CHENG ; VENKATACHALAM MUTHAIAH ; ZHU YUAN ; YANG XIANGYING ; ZHANG YUJIAN ; SCHROM GERHARD ; VUNNAM RAVI SANKAR ; PENG YUEFENG ; SIROTKIN ALEXANDER ; ZHU LONGCHENG ; ZHU JING ; PANTELEEV SERGEY ; SHILOV MIKHAIL ; MOROZOV GREGORY ; SMITH PETER J ; SHAFI MANSOOR ; PANGAL KIRAN ; ZHU FENG ; RUBY PAUL D ; MUTHAIAH VENKATACHALAM ; SHILVO MIKHAIL ; OYMAN OZGUR ; BASHAR SHAFI ; BOLOTIN ILYA ; CHEN XIAOGANG ; CHOU JOEY ; CHERVYAKOV ANDREY ; CHATTERJEE DEBDEEP ; FU JIN ; FWU JONG KAE ; FONG MO HAN ; ETEMAD KAMRAN ; DAVYDOV ALEXEI ; FIRAG ABDULLA ; GUO XIN

Assignee(s): ETEMAD KAMRAN ; INTEL SANTA CLARA CORP ; INTEL CORPOPATION

Inventor(s): (std): ETEMAD KAMRAN ; GERHARD SCHROM ; CHZHAN YUDZYAN ; GUPTA MARUTI ; KOC ALI T ; NIU HUANING ; JAIN PUNEET K ; LI QINGHUA ; KOC ALI TAHA ; JAIN PUNEET ; HE HONG ; KHORYAEV ALEXEY ; MALTSEV ALEXANDER ; MOROZOV GREGORY ; KOC ALI ; GUO XIN ; MUTHAIAH VENKATACHALAM ; KOC ALL TAHA ; H NIU ; HUANING NIU ; M FENG ; MIKHAIL SHILVO ; OJMAN OZGUR ; KOK ALI TAKHA ; LI TSINKHUA ; KOK ALI ; KAMRAN ETEMAD ; MARUTI GUPTA ; VANNITHAMBY RATH ; YANG RONGZHEN ; YIN HUJUN ; SHIRANI MEHR HOOMAN ; PAPATHANASSIOU APOSTOLOS ; WANG SHAO CHENG ; VENKATACHALAM MUTHAIAH ; ZHU YUAN ; YANG XIANGYING ; ZHANG YUJIAN ; SCHROM GERHARD ; VUNNAM RAVI SANKAR ; PENG YUEFENG ; SIROTKIN ALEXANDER ; ZHU LONGCHENG ; ZHU JING ; PANTELEEV SERGEY ; SHILOV MIKHAIL ; SHAFI MANSOOR ; SMITH PETER J ; PANGAL KIRAN ; RUBY PAUL D ; ZHU FENG ; SHILVO MIKHAIL ; XIAOGANG CHEN ; YUAN ZHU ; QINGHUA LI ; R YANG ; ZHANG YULAN ; WANG SHAOCHENG ; Y ZHANG ; SERGEY PANTELEEV ; ZHANG YUIJIAN ; OYMAN OZGUR ; VANITAMBI RAT ; VENKATACHALAM MUTKHAIAKH ; VAN SHAO CHEHN ; VANNITAMBI RAT ; CHEN XIAOGANG ; CHOU JOEY ; CHERVYAKOV ANDREY ; BOLOTIN ILYA ; CHATTERJEE DEBDEEP ; CHEHN SJAOGAN ; CHZHAN JUDZJAN ; FU JIN ; FWU JONG KAE ; FONG MO HAN ; ETEMAD KAMRAN ; DAVYDOV ALEXEI ; FIRAG ABDULLA ; FU ZHONGKAI ; ETHEMAD CAM RANH ; DZHAIJN PUNEET ; CHZHU JUAN ; DZHAIJN PUNEET K ; EHEMAD KAMRAN ; A KE ; ALEXEY KHORYAEV ; BASHAR SHAFI ; ANDREY CHERVYAKOV ; ALI KOC ; PUNEET K JAIN ; VAN SHAO CHEN ; YUJIAN ZHANG ; RATH VANNITHAMBY ; RAVI SANKAR VUNNAM

Inventor(s): SHAO CHENG WANG ; PUNEET JAIN ; ALI TAHA KOC ; FWU JONG KAE SUNNYVALE ; CHOU JOEY SCOTTSDALE ; OYMAN OZGUR SAN JOSECA ; VANNITHAMBY RATH PORTLAND ; KOC ALI HILLSBORO ; GUPTA MARUTI PORTLAND ; JAIN PUNEET HILLSBORO ; KOC ALL TAHA HILLSBORO ; NIU HUANING MILPITAS ; LI QINGHUA SAN RAMON

Agent(s): FISHER ADAMS KELLY PTY LTD; FISHER ADAMS KELLY CALLINANS; SMART AND BIGGAR; RICHES MCKENZIE AND HERBERT LLP; HUFTON DAVID ALAN; JENNINGS VINCENT LOUIS; HGF LTD; ISERN JORGE; LEHMANN MARIA ISABEL; DR BELINDA ROSALINA SH LLM; EITAN MEHULAL AND SADOT; OHNUKI SHINSUKE; ITOH TADAHIKO; ITOH TADASHIGE; RYUKA IP LAW FIRM; SCHWABE WILLIAMSON AND WYATT PC; ALPINE TECHNOLOGY LAW GROUP LLC; THORPE NORTH AND WESTERN LLP; SCHWEGMAN LUNDBERG AND WOESSNER PA; BLAKELY SOKOLOFF TAYLOR AND ZAFMAN LLP; THORPE NORTH AND WESTERN; MAKI NATHAN R; BURRELL CHARLES A; MADDEN ROBERT B ET AL; HAYMOND ALEX W; KACVINSKY JOHN F; MCCRACKIN ANN M ET AL; TROP TIMOTHY N; CHINA PATENT AGENT; COOL KENNETH ET AL; COOL KENNETH J ET AL; OSBORNE DAVID W ET AL; KACVINSKY JOHN F ET AL; PARKER WESLEY E ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT HW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: BEAMFORMING SIGNALING IN A **WIRELESS NETWORK**

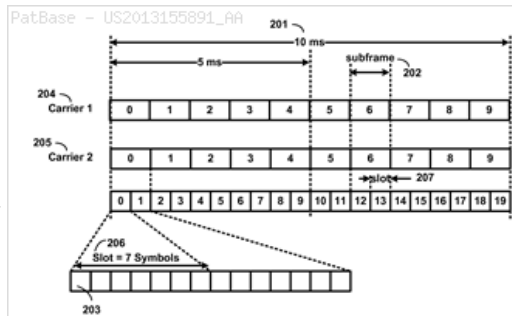
Abstract: Source: US2013155891A [EN] A first base station receives a message from a second base station. The second base station comprises a **downlink** carrier comprising **downlink** resource **blocks**. The message comprises **downlink** beamforming information element indicating a beamforming codeword employed for a **downlink** resource **block**. The first base station obtains channel state input information for a **wireless device** based on, at least in part, processing the **downlink** beamforming information. The first base station **transmits** the channel state input information to the **wireless device**.

Classifications:

International (IPC 8-9): H04B7/02 H04B7/04 H04B7/0417 H04B7/0456 H04B7/06 H04B7/216 H04J11/00 H04L25/03 H04L27/26 H04L5/00 H04W24/02 H04W28/02 H04W36/00 H04W36/08 H04W36/24 H04W36/30 H04W4/00 H04W72/04 H04W72/08 (Advanced/Invention); H04B7/04 H04B7/0417 H04W36/08 H04W74/00 H04W88/08 (Advanced/Non-invention)

CPC: H04W24/02 H04W36/24 H04W72/0426 H04B7/063 H04B7/0634 H04B7/0639 H04L25/03955 H04L27/2646 H04W72/0406 H04W72/044 H04W74/002 H04B7/0617 H04B7/0478 H04B7/043 H04W36/30 H04W72/042 H04B7/0626 H04W72/0453 H04W72/082 H04W88/08 H04W36/0005 H04L5/0023 H04L5/0053 H04J11/0056 H04L5/0073 H04B7/0456 H04W36/0072 H04W72/046 H04B7/0473 H04W28/0236 H04B7/0417 H04W36/0094 H04W36/08 H04B7/046 H04W36/0055

US: 1/1 370/252 370/328 370/329 370/331 370/332 370/334 370/335 370/338 370/341 370/342 370/348 375/267 455/436 455/436 455/438

**Family:**

Publication number	Publication date	Application number	Application date
US2013155891 AA	20130620	US20120716135	20121215
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Probable Assignee: COMCAST CABLE COMMUNICATIONS LLC

Assignee(s): (std): COMCAST CABLE COMM LLC ; COMCAST CABLE COMMUNICATIONS LLC ; DINAN ESMAEL HEJAZI ;
OFINNO TECHNOLOGIES LLC

Inventor(s): (std): DINAN ESMAEL HEJAZI

Agent(s): DAVID; ESMAEL; BANNER AND WITCOFF LTD

Title: **METHOD** AND **APPARATUS** OF **TRANSMITTING** INFORMATION IN **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2011126071A [EN] A **method** and an **apparatus** of **transmitting** information in a **wireless communication system** are provided. The **method** includes **transmitting** first information based on a first resource index through a first antenna and **transmitting** second information based on a second resource index through a second antenna.

Classifications:

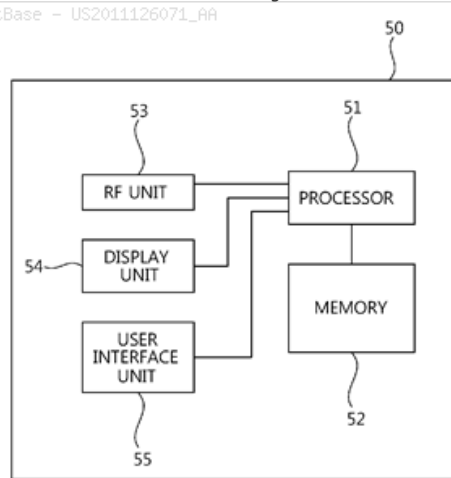
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CPC: H04J13/0074 H04L5/0026 H04B7/2606 H04L1/06 H04L1/1692 H04L5/0046 H04L1/0606 H04L1/0668 H04L27/34 H04B7/0632 H04B7/0639 H04L5/0044 H04L5/0048 H04L5/0053 H04J13/16 H04J2013/165 H04L1/0031 H04L1/0073 H04L1/1607 H04L1/1671 H04L1/1861 H04L5/003 H04L5/0094 H04L5/0055 H04L5/0051 H04B7/0686 H04L27/2613 H04L5/0007 H04L5/0057 H04L25/4906 H04L27/02 H04L27/18 H04W72/085 H04B7/0413 H04W72/1278 H04L1/0057 H04L5/0023 H04L27/2646 H04B7/2612 H04B7/0619 H04W24/10 H04L1/001 H04W72/0406 H04W72/04 H04W72/0413 H04W72/042 H04L27/2626 H04L27/2627 H04W72/0453 H04L1/0028 H04B7/0671 H04L1/0026 H04L1/1812 H04L1/1848 H04L1/1854 H04L5/0091 H04L27/2602 H04B7/0689 H04B7/068 H04L27/2615 H04B7/04 H04L27/2601 H04J13/0062 H04B7/0669 H04L27/2607 H04W72/044 H04L1/1864 H04W72/0446 Y02D70/1262 Y02D70/1264 Y02D70/23 Y02D70/444

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US: 1/1 341/20 370/203 370/203S 370/208 370/208P 370/295 370/319 370/328 370/328P 370/329 370/329P 370/329S 370/330 370/334 370/336 370/343 370/344 370/350 370/436 370/441 370/442 370/474 375/132 375/146 375/146P 375/219 375/259 375/260 375/267 375/295 375/295P 375/299 455/451 455/501 455/67.13 714/749 714/749P 714/E11.141 714/E11.141S

PatBase - US2011126071_AH



Family:

Publication number	Publication date	Application number	Application date
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CA2759204 C	20141202	CA20102759204	20100210
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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHUNG JAE HOON ; CHUNG JAEHOON ; HAN SEUNG HEE ; HAN SEUNGHEE ; KO HYUN SOO ; KWON YEONG HYEON ; LEE HYUN WOO ; KWAK JIN SAM ; KIM DONG CHEOL ; KOO JA HO ; KO HYUNSOO ; KO HYNN SOO ; LEE MOON IL ; NOH MIN SEOK ; MOON SUNG HO ; LG ELECTRONICS INC ; MOON SUNGHO ; LEE II MOON ; LEE MOON II ; MOON SEONG HO

Assignee(s): LG ELECTRONICS INC20 YEOUIDO-DONGYEONGDEUNGPO-GU150-721SEOULKR

Inventor(s): (std): WOO LEE HYUN ; SOO KO HYUN ; SEOK NOH MIN ; SAM KWAK JIN ; NOH MIN SEOK ; MOON SUNGHO ; MOON SUNG HO ; LI HYUN WOO ; LEE MOON IL ; LEE HYUN WOO ; KWON YEONG HYEON ; KWAK JIN SAM ; KOO JA HO ; KO HYUNSOO ; KO HYUN SOO ; KIM DONG CHEOL ; IL LEE MOON ; HYEON KWON YEONG ; HOON CHUNG JAE ; HO MOON SUNG ; HO KOO JA ; HEE HAN SEUNG ; HAN SEUNGHEE ; HAN SEUNG HEE ; CHUNG JAEHOON ; CHUNG JAE HOON ; CHEOL KIM DONG ; LEE MOON II ; NOH MINSEOK ; LEE I MOON LL ; KO HYNN SOO ; LEE II MOON

Inventor(s): LEE MOON ILKR ; KO HYUN SOOKR ; KWON YEONG HYEONKR ; CHUNG JAE HOONKR ; HAN SEUNG HEEKR

Agent(s): SMART AND BIGGAR; TER MEER STEINMEISTER AND PARTNER PATENTANWAELTE MBB; WUESTHOFF AND WUESTHOFF PATENTANWAELTE PARTG MBB; KATERLE AXEL; TER MEER STEINMEISTER AND PARTNER GBR; TER MEER STEINMEISTER AND PARTNER; GUNZELMANN RAINER; CURELL MIREIA; CARPINTERO MARIO; BIRCH STEWART KOLASCH AND BIRCH LLP; LEE HONG DEGERMAN KANG AND WAIMEY; MCKENNA LONG AND ALDRIDGE LLP; DENTONS US LLP; DENTONS US; LEE HONG DEGERMAN KANG WAIMEY; KIM YONG IN ET AL; YANG MOON OCK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: DYNAMIC SPECIAL SUBFRAME ALLOCATION

Abstract: Source: US2013107704A [EN] A base station **transmits** a message to **wireless devices** in connected mode. The message comprises an initial subframe allocation bitmap indicating an initial plurality of subframes including an initial plurality of special subframes. After an increase in the number of **wireless devices** or traffic load by an amount greater than a load value, the base station **transmits** a second message. The second message comprises an updated subframe allocation bitmap indicating a second plurality of subframes including an updated plurality of special subframes. The updated plurality of special subframes includes a smaller number of special subframes than the initial plurality of special subframes.

Classifications:

International (IPC 8-9): G01R31/08 H04B7/26 H04H20/33

H04H20/42 H04J11/00 H04L27/26 H04L29/06 H04L5/00 H04L5/14

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H04W52/14 H04W52/34 H04W52/60 H04W56/00 H04W72/04

H04W72/12 (Advanced/Invention);

H04L5/00 H04W16/06 H04W24/10 H04W48/12 H04W52/24

H04W84/04 H04W88/02 H04W88/08 (Advanced/Non-invention)

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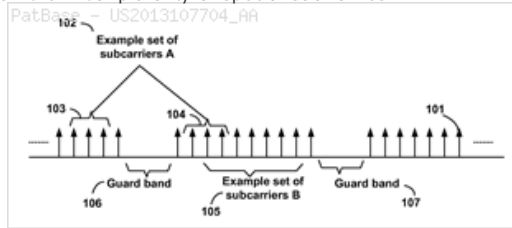
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H04L69/22 H04W52/143 H04L5/0007 H04W72/042 H04W52/60 H04W72/0446 Y02B60/50 Y02D70/00

US: 1/1 370/230 370/252 370/280 370/312 370/328 370/329 370/350 370/433 375/130



Family:

Publication number	Publication date	Application number	Application date
EP2771999 A2	20140903	EP20120812742	20121029
EP2879320 A1	20150603	EP20140197792	20121029
US2013107704 AA	20130502	US20120662458	20121027
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Priority:

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Probable Assignee: COMCAST CABLE COMMUNICATIONS LLC

Assignee(s): (std): COMCAST CABLE COMM LLC ; DINAN ESMAEL HEJAZI ; OFINNO TECH LLC ; OFINNO TECHNOLOGIES LLC

Assignee(s): COMCAST CABLE COMMUNICATIONS LLC

Inventor(s): (std): DINAN ESMAEL HEJAZI

Agent(s): PATENTANWALTE WESTPHAL MUSSGNUMG AND PARTNER; WESTPHAL MUSSGNUMG AND PARTNER
PATENTANWALTE MBB; ESMAEL; DAVID; BANNER AND WITCOFF LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
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IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR
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SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **SYSTEM** FOR COMBINING OFDM AND TRANSFORMED OFDM

Abstract: Source: US2008186843A [EN] **Methods** and **systems** are provided that enable an OFDM **transmitter** to be used for **transmitting** conventional OFDM or a form of transformed OFDM. A technique is provided for transforming a coded and modulated sequence of samples prior to an IFFT that enables the transformed sequence of samples to be **transmitted** using conventional OFDM or transformed OFDM. The selection of a transform function for transforming the coded and modulated sequence of samples may be based on optimizing the transform function for particular operating conditions between the **transmitter** and receiver. In some embodiments of the invention OFDM and **time** transformed OFDM are **multiplexed** in **time** and/or frequency in a transmission frame. In some embodiments of the invention a pilot pattern is provided in which the pilot are sent using OFDM and data is sent using OFDM and/or transformed OFDM.

Classifications:

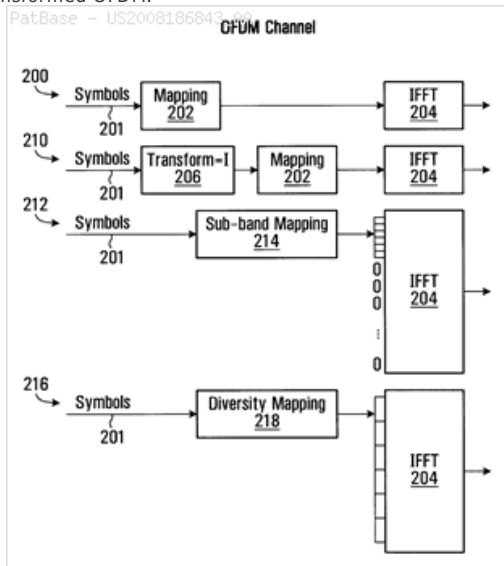
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International (IPC 1-7): H04W74/08

CP: H04B1/707 H04L27/2611 H04L27/2626 H04L27/2634 H04L27/2628 H04L27/263 H04L25/02 H04L5/0044 H04L27/2646 H04B7/0678 H04J13/00 H04J13/16 H04L5/0026 H04L25/0204 H04L25/03866 H04L27/2613 H04B7/0404 H04W72/044 H04L65/1066 H04W52/325 H04W74/0891 H04L25/0232 H04B7/0669 H04B7/12 H04L1/0009 H04L1/0026 H04L1/0071 H04L1/0656 H04L1/1812 H04L1/1887 H04L5/0039 H04L5/0041 H04L5/0042 H04L5/0046 H04L5/0048 H04L5/0053 H04L5/006 H04L5/0085 H04L5/0096 H04L25/0228 H04L25/03057 H04L27/2655 H04B7/06 H04B7/08 H04L27/2647 H04L1/06 H04L1/0618 H04L5/023 H04L27/2662 H04W74/006 H04W74/0866 H04W72/0446 H04L5/0007 H04W72/0453 H04L5/0023 H04L5/005 H04L1/0003 H04L25/0226 H04L27/2657 H04L5/0016 H04J13/0003 H04L27/2627 H04L5/0051 H04L27/2602 H04B7/02

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Family:

Publication number	Publication date	Application number	Application date
CN101204031 A	20080618	CN200680017818	20060330
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CN101208887 A	20080625	CN200680017857	20060330
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Priority:

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Probable Assignee: ROCKSTAR BIDCO LP

Assignee(s): (std): APPLE INC ; BOUMENDIL SARAH ; FONG MO HAN ; JIA MING ; NORTEL NETWORKS LTD ; MA JIANGLEI ; TONG WEN ; LE STRAT EVELYNE ; ROCKSTAR BIDCO LP ; ZHANG HANG ; VRZIC SOPHIE ; YU DONG SHENG ; XU HUA ; ZHU PEIYING

Assignee(s): NIOREL NETWORKS LTD ; NORTEL NETWORKS LIMITED

Inventor(s): (std): YU DONGSHENG ; ZHU PEIYING ; ZHANG HANG ; YU DONG SHENG ; XU HUA ; VRZIC SOPHIE ; TONG WEN ; MA JIANGLEI ; JIA MING ; FONG MO HAN ; ZHU HUA ; SOPHIE VRZIC ; MING JIA ; JIANGLEI MA ; HUA XU ; HANG ZHANG ; XU HUAN ; WEN TONG ; PEIYING ZHU ; LE STRAT EVELYNE ; BOUMENDIL SARAH

Agent(s): LANG JOHANNES; BOYCE CONOR ET AL; MACKENZIE ANDREW BRYAN ET AL; MACKENZIE ANDREW BRYAN; SMART AND BIGGAR PO BOX 2999 STATION D; SMART AND BIGGAR; DOWELL AND DOWELL PC; MEYERTONS HOOD KIVLIN KOWERT AND GOETZEL PC; PARADIGM IP LAW PC; ROSS L; ANTHONY M

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: **METHOD** FOR **TRANSMITTING** SOUNDING REFERENCE SIGNALS IN A **WIRELESS COMMUNICATION SYSTEM**, AND **APPARATUS** FOR SAME

Abstract: Source: US2012008588A [EN] The present invention relates to a **method** in which a **user** equipment **transmits** a plurality of sounding reference signals to a base station in a **wireless communication system**. More particularly, the **method** comprises the steps of: generating a plurality of sounding reference signals on the basis of repetition factors (RPFs) corresponding to the number of **transmitting** antennas; **multiplexing** the plurality of sounding reference signals to a frequency domain in the same OFDM symbol or SC-FDMA symbol on the basis of a **transmitting** antenna index; and **transmitting** the **multiplexed** sounding reference signals to the base station using a plurality of **transmitting** antennas.

Classifications:

International (IPC 8-9): G01R31/08 H04B7/04 H04B7/06 H04B7/26

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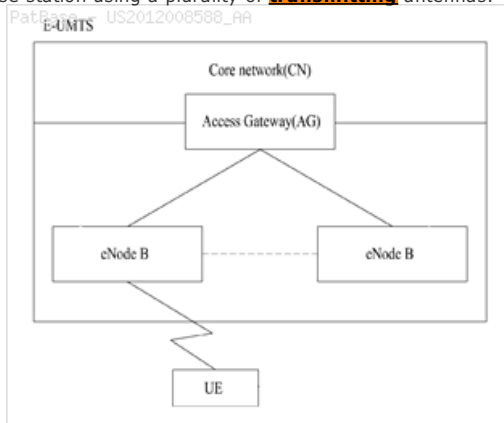
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H04W92/00 (Advanced/Non-invention);

H04B7/04 H04J11/00 H04L27/26 (Core/Invention)

CPC: H04B7/2656 H04W56/00 H04L5/0091 H04W48/12 H04W4/00
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US: 1/1 370/206 370/210 370/236 370/252 370/252P 370/280 370/328 370/329 370/329P 370/331 370/336 370/336P
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Family:

Publication number	Publication date	Application number	Application date
AU2010248255 AA	20101118	AU20100248255	20100517
AU2010248255 BB	20130829	AU20100248255	20100517
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Priority:

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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHUNG JAE HOON ; HAN SEUNG HEE ; KWON YEONG HYE ; KWON YEONG HYEON ; LEE MOON II ; LEE MOON IL ; LG ELECTRONICS INC ; NOH MIN SEOK ; MOON SUNG HO ; NOH MIN SEO ; MOON SEONG HO

Inventor(s): (std): CHUNG JAE HOON ; HAN SEUNG HEE ; HEE HAN SEUNG ; HO MOON SUNG ; HOON CHUNG JAE ; HYEON KWON YEONG ; IL LEE MOON ; KWON YEONG HYE ; KWON YEONG HYEON ; LEE MOON II ; LEE MOON IL ; MOON SUNG HO ; NOH MIN SEO ; NOH MIN SEOK ; SEOK NOH MIN

Inventor(s): SEUNG HEE HAN ; MIN SEOK NOH ; JAE HOON CHUNG

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; SMART AND BIGGAR; CABINET PLASSERAUD; KESERIS DENIS; BIRCH STEWART KOLASCH AND BIRCH LLP; LEE HONG DEGERMAN KANG AND WAIMEY; KIM YONG IN ET AL; YANG MOON OCK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CONNECTION RECONFIGURATION IN A MULTICARRIER OFDM **NETWORK**

Abstract: Source: US2013010620A [EN] A base station **transmits** a control message to a **wireless device** to configure a first connection comprising at least one data radio bearer and to configure measurement parameters of the **wireless device**. The base station receives a measurement report from the **wireless device** comprising signal quality information of a second carrier. The base station activates the second carrier if the at least one measurement report indicates an acceptable signal quality for the second carrier. The base station **transmits** data traffic to the **wireless device** on the first and second carriers.

Classifications:

International (IPC 8-9): H01J3/06 H04J11/00 H04J3/06 H04L27/26 H04L27/28 H04L5/00 H04L7/00 H04W24/10 H04W4/00 H04W52/04 H04W56/00 H04W72/00 H04W72/04 H04W72/08

H04W74/08 (Advanced/Invention);

H04W72/04 H04W74/00 (Advanced/Non-invention)

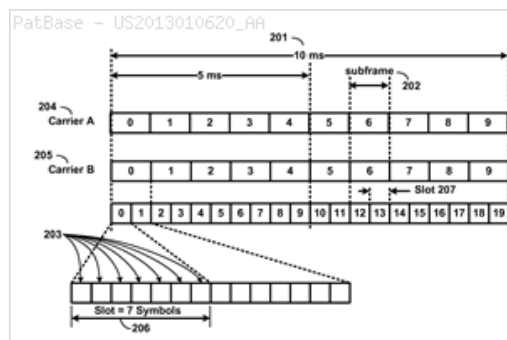
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H04W56/0045 H04L27/2657 H04W72/042 H04W76/15

US: 1/1 370/206 370/252 370/328 370/329 370/330 370/336

370/350 375/260 375/356 455/450 455/502



Family:

Publication number	Publication date	Application number	Application date
US2013010620 AA	20130110	US20120539619	20120702
US2013010716 AA	20130110	US20120540654	20120703
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Priority:

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Assignee(s): (std): DINAN ESMAEL ; DINAN ESMAEL HEJAZI ; OFINNO TECH LLC ; OFINNO TECHNOLOGIES LLC

Assignee(s): COMCAST CABLE COMMUNICATIONS LLC

Inventor(s): (std): DINAN ESMAEL HEJAZI ; DINAN ESMAEL

Agent(s): ESMAEL; DAVID

Title: **METHOD** OF RECEIVING A POINT-TO-MULTIPOINT SERVICE IN A **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2010261468A [EN] The present invention relates to a **wireless communication system** and **user** equipment providing **wireless communication** services, and a **method** of **transmitting** and receiving data between a terminal and a base station in an evolved Universal Mobile Telecommunications **System** (UMTS) that has evolved from a Universal Mobile Telecommunications **System** (UMTS) or a Long Term Evolution (LTE) **system**, and more particularly, to a **method** of receiving a point-to-multipoint service data, and it may be an object of the present invention is to provide an improved **method** of receiving the point-to-multipoint service data in a **wireless communication system** in order to minimize a data loss by a reception entity.

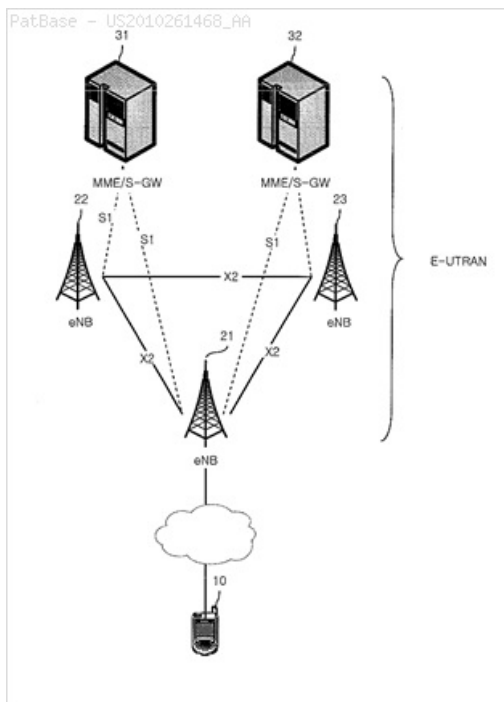
Classifications:

International (IPC 8-9): G01R31/08 H04B15/00 H04B7/00 H04B7/14 H04B7/15 H04B7/155 H04B7/26 H04H20/71 H04J1/00 H04J1/10 H04J11/00 H04J3/08 H04J3/14 H04K1/00 H04L1/00 H04L1/16 H04L1/18 H04L12/18 H04L12/26 H04L12/28 H04L27/00 H04L27/10 H04L29/06 H04L5/00 H04W12/02 H04W12/04 H04W12/06 H04W12/08 H04W12/10 H04W16/12 H04W16/26 H04W24/00 H04W24/02 H04W24/04 H04W24/10 H04W28/00 H04W28/04 H04W28/06 H04W28/10 H04W28/12 H04W28/14 H04W28/16 H04W28/18 H04W28/24 H04W36/00 H04W36/08 H04W4/00 H04W4/06 H04W40/00 H04W40/22 H04W48/02 H04W48/08 H04W48/10 H04W48/12 H04W52/00 H04W52/02 H04W68/02 H04W72/00 H04W72/02 H04W72/04 H04W72/08 H04W72/12 H04W72/14 H04W74/08 H04W76/02 H04W76/04 H04W80/02 H04W84/00 H04W88/02 H04W88/04 H04W92/00 (Advanced/Invention); H04B7/14 H04B7/26 H04L1/00 H04L1/16 H04L5/00 H04W24/10 H04W4/06 H04W72/04 H04W76/02 H04W84/04 (Advanced/Non-invention); H04B7/14 H04W76/00 (Core/Invention)

CPC: H04L5/00 H04L5/0032 H04L5/006 H04W74/085 H04L5/0053 H04W72/005 H04W72/1252 H04L47/10 H04L47/11 H04L47/14 H04L47/2408 H04L47/2416 H04L47/2441 H04L47/2491 H04L47/28 H04L47/30 H04L5/0055 H04L5/0082 H04L5/0098 H04W48/16 H04W16/26 H04B7/15 H04W12/02 H04B7/15528 H04W36/0027 H04W74/0833 H04W4/12 H04W48/08 H04W72/1284 H04W72/0413 H04L1/00 H04L2001/0093 H04W28/04 H04W24/00 H04W24/08 H04W74/0841 H04L1/1812 H04L12/18 H04W4/06 H04W72/1205 H04B7/15542 H04W72/085 H04B7/155 H04W74/08 H04L1/0002 H04L1/1829 H04W28/18 H04W80/02 H04L5/0037 H04L5/0091 H04W72/042 H04W48/02 H04L5/0007 H04L27/2601 H04W72/087 H04W72/0406 H04W12/10 H04W12/08 H04L29/06755 H04L27/0014 H04W28/10 H04W28/06 H04W88/04 H04L1/1614 H04L2001/0097 H04W72/0426 H04W84/047 H04W72/14 H04L69/28 H04B7/15507 H04W76/022 H04B7/2606 H04L1/1635 H04W72/04 H04W76/10 H04W76/19 H04W76/18 H04W76/28 H04W76/15 H04L5/001 H04W24/10 H04W48/12 H04W74/002 H04W76/046 H04W76/12 H04W76/27

European: H04B7/155 H04B7/155F H04B7/155J H04B7/26B2 H04L1/16F1 H04L1/16F7 H04L27/26M H04L47/10 H04L47/11 H04L47/14 H04L47/24A H04L47/24B H04L47/24D H04L47/24K H04L47/28 H04L47/30 H04L5/00A2A11 H04L5/00C2 H04L5/00C6 H04W12/02 H04W12/10 H04W24/10 H04W28/18 H04W36/00P2M H04W48/02 H04W48/08 H04W72/00B H04W72/04F H04W72/04N H04W72/08F H04W72/12 H04W72/12B H04W72/12B10 H04W72/12F2 H04W74/08D H04W74/08D2B H04W76/02P H04W76/04R H04W76/04T T04B7/26B2 T04L1/00T11 T04L5/00A2A1 T04L5/00A2A11 T04L5/00C1 T04L5/00C2 T04L5/00C7A T04L5/00E T04W12/10 T04W24/00 T04W24/10 T04W28/04 T04W4/06 T04W4/12 T04W48/08 T04W48/12 T04W48/16 T04W72/04F T04W72/04F2 T04W72/04F4 T04W74/00C T04W76/02P T04W76/02R T04W84/04C4

US: 1/1 37/328 370/216 370/216P 370/228 370/228P 370/229 370/235 370/235P 370/236 370/242 370/242S 370/252 370/252P 370/254 370/254P 370/312 370/312P 370/315 370/315P 370/328 370/328P 370/329 370/329P 370/329S 370/331 370/331P 370/332 370/338 370/338P 370/345 370/348 370/448 370/469 370/474 370/480 380/239 380/252 380/270 380/270P 455/11.1 455/331 455/422.1 455/422.100P 455/423 455/434 455/436 455/445 455/450 455/452.2 455/509 455/509P 455/512 455/513 455/67.11 455/71 455/9 455/9P



Family:

Publication number	Publication date	Application number	Application date
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

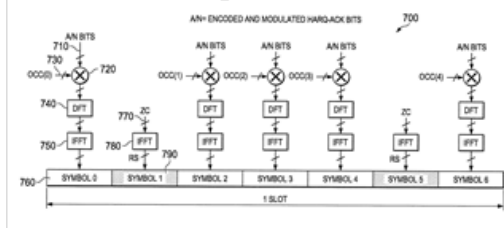
Title: TRANSMISSION OF ACKNOWLEDGEMENT INFORMATION IN ADAPTIVELY CONFigureD **TDD COMMUNICATION SYSTEMS**

Abstract: Source: US2014269452A [EN] **Methods** and **apparatus** of a base station or a **User Equipment (UE)** in **communication** with each other are provided. The UE is configured by the base station for operation with an adapted **Time Division Duplex (TDD) UpLink-DownLink (UL-DL)** configuration. A process enabling transmission of acknowledgement information from the UE for **communication** in two different sets of **DL Transmission Time Intervals (TTIs)** is provided.

Classifications:

International (IPC 8-9): H04B7/26 H04J3/00 H04L1/16 H04L1/18 H04L29/06 H04L5/00 H04L5/14 H04W24/00 H04W28/06 H04W72/04 H04W72/12 (Advanced/Invention); H04L1/16 (Advanced/Non-invention)
CPC: H04B7/2643 H04L1/1671 H04L5/0055 H04L5/0094 H04W72/0413 H04W72/0446 H04L1/1861 H04W72/0406 H04L5/1469
US: 1/1 370/280 370/330

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Family:

Publication number	Publication date	Application number	Application date
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Inventor(s): (std): PAPASAKELLARIOU ARIS

Agent(s): GRIFFITH HACK; MARKS AND CLERK; GULDE AND PARTNER; YOON DONG YOL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING**/RECEIVING **DOWNLINK** SIGNAL CONSIDERING ANTENNA PORT RELATIONSHIP IN **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2015208392A [EN] The present invention relates to a **wireless communication system**, and more specifically, to a **method** and an **apparatus** for **transmitting** or receiving a **downlink** signal considering an antenna port relationship. The **method** for enabling a terminal to receive a physical **downlink** sharing channel (PDSCH) signal in the **wireless communication system** according to one embodiment of the present invention can determine a PDSCH start symbol index according to the predetermined priority and receive the PDSCH signal therethrough. The PDSCH start symbol index can be determined when a PDSCH start symbol value included in a PDSCH resource element mapping and Quasi co-location Indicator (PQI) parameter set is determined by an upper layer. The PDSCH start symbol index can be determined according to the PDSCH start symbol value for a cell receiving the PDSCH when the PDSCH start symbol value included in the PQI parameter set is not determined by the upper layer.

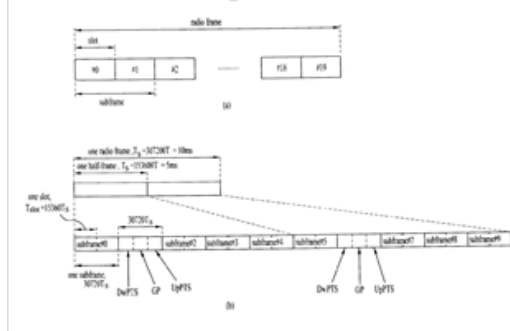
Classifications:

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CPC: H04L5/0007 H04L12/1881 H04L5/005 H04L12/18 H04B7/0413 H04L12/189 H04W72/005 H04B1/16 H04B7/26 H04B7/2656 H04W4/025 H04B7/0626 H04W72/042 H04L5/00 H04B7/0473 H04W24/00 H04W72/00 H04W76/00 H04J11/00 H04L5/001 H04W72/12 H04L5/0023 H04L5/0037 H04W28/18 H04B7/024 H04L5/0035 H04L5/0094 H04L5/0048 H04W4/06 H04W72/0446 H04L5/0044 H04L5/0053 H04L5/0091 H04L27/2656 H04W72/046 H04B7/0426 H04B7/0417 H04L5/0057 H04W76/021 H04W76/11

US: 1/1 370/312 370/329 375/340

PatBase - US2015208392_AA



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): KIM BYOUNG HOON ; KIM BYOUNGHOON ; KIM EUN SUN ; KIM EUNSUN ; KIM KI JUN ; KIM KIJUN ; PARK JONG HYUN ; PARK JONGHYUN ; SEO HAN BYUL ; SEO HANBYUL ; SEO IN KWON ; SEO INKWON ; SOHN ILL SOO ; YANG SUCK CHEL ; YANG SUCKCHEL

Agent(s): KATERLE AXEL; FRENKEL MATTHIAS ALEXANDER; AOKI ATSUSHI; TSURUTA JUNICHI; DENTONS US LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: PREAMBLE BASED **UPLINK** POWER CONTROL FOR LTE

Abstract: Source: US2008207150A [EN] **Systems** and methodologies are described that facilitate utilizing power control preambles with closed loop power control techniques in a **wireless communication** environment. An **uplink** grant can be transferred over a **downlink** (e.g., a first **uplink** grant after **uplink** inactivity), and a power control preamble can be sent over an **uplink** in response to the **uplink** grant. According to an example, transmission of the power control preamble can be explicitly scheduled and/or implicitly scheduled. The power control preamble can be **transmitted** at a power level determined by an access terminal utilizing an open loop power control mechanism. A base station can analyze the power control preamble and generate a power control command based thereupon to correct the power level employed by the access terminal. The access terminal can thereafter utilize the power control command to adjust the power level for **uplink** data transmission.

Classifications:

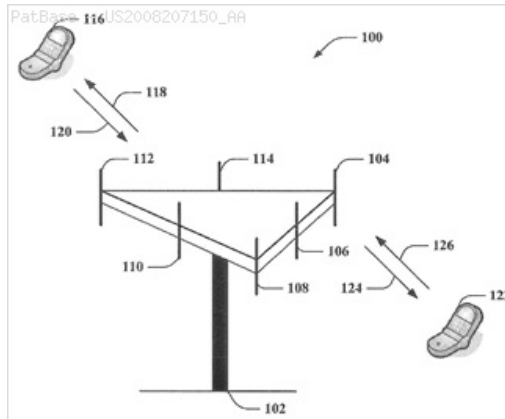
International (ipc 8-9): H04B1/00 H04B1/02 H04B1/04 H04B1/38 H04B17/00 H04B7/00 H04B7/005 H04J99/00 H04L29/08 H04L5/00 H04Q7/20 H04W H04W4/20 H04W52/06 H04W52/08 H04W52/10 H04W52/14 H04W52/18 H04W52/24 H04W52/32 H04W52/36 H04W52/44 H04W52/54 H04W72/04 H04W72/14 (Advanced/Invention); H04W52/36 H04W52/54 H04W88/08 (Advanced/Non-invention); H04B1/02 H04B1/04 H04B1/38 H04B17/00 H04B7/005 H04J99/00 H04W4/20 H04W52/00 (Core/Invention); H04B7/005 (Core/Non-invention); H04B H04L H04W (Subclass/Invention)

International (ipc 1-7): H04B7/005

CPC: H04W52/146 H04W52/362 H04W52/54 H04W52/10 H04W52/08 H04W52/44 H04L5/0048 H04W72/14 H04W88/08

European: H04W52/08 H04W52/10 H04W52/14U H04W52/44 T04W52/36A T04W52/54

US: 1/1 370/252 370/311 370/318 370/355 455/127.1 455/127.100P 455/509 455/509P 455/522 455/561 455/572 455/67.11 455/69



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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JP20170023228	20170210				

Probable Assignee: QUALCOMM INC

Assignee(s): (std): MALLADI DURGA PRASAD ; MONTOJO JUAN ; QUALCOMM INC

Assignee(s): QUALCOMM INCATTN: INTERNATIONAL IP ADMINISTRATION5775 MOREHOUSE DRIVESAN DIEGOC92121-1714US ; QUALCOMM INCORPORATED ; QUALCOMM INC SAN DIEGO ; QUALCOMM INCORPORATEDUS ; KVEHLKOMM INKORPOREJTED

Inventor(s): (std): DURGA PRASAD MALLADI ; DURGA PRASAD MARADI ; MALLADI DURGA PRASAD ; MONTOJO JUAN ; PRASAD MALLADI DURGA ; JUAN MONTOJO ; MONTOKHO KHUAN

Inventor(s): MONTOJO JUAN SAN DIEGO ; MONTOJO JUANUS ; MALLADI DURGA PRASAD SAN DIEGO ; MALLADI DURGA PRASADUS

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; SMART AND BIGGAR; REDDIE AND GROSE LLP; LOVELESS IAN MARK; HOWE STEVEN; FORTEA JUAN JOSE; SANFORD TCOLB AND CO; QUALCOMM INC; DARRELL SCOTT; JIMMY; ANTHONY R; PATTERSON AND SHERIDAN LLP; BACHAND RICHARD A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **SYSTEMS** AND **METHODS** FOR CONFIGURING REDUNDANT TRANSMISSIONS IN A **WIRELESS NETWORK**

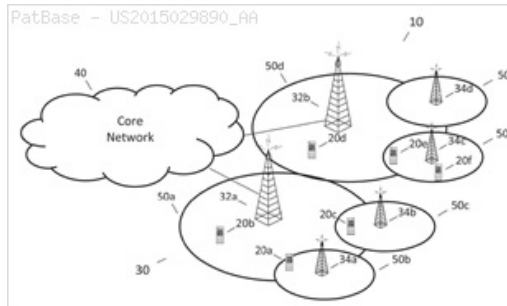
Abstract: Source: US2015029890A [EN] A **method** for configuring **communication** in a **wireless communication system** includes obtaining, at a first **network** node, information indicating a plurality of candidate subframes for **downlink** transmissions to a **wireless communication device** in a first cell served by the first **network** node. Each candidate subframe satisfies a candidate condition that relates to transmissions in a second cell during that subframe. The **method** also includes determining, based on the obtained information, a number of copies of an **uplink** transmission a **wireless communication device** should **transmit** in consecutive **uplink** subframes so that a **downlink** transmission related to the **uplink** transmission will occur during one of the candidate subframes. Additionally, the **method** includes configuring the **wireless communication device** to **transmit** the determined number of copies of the **uplink** transmission in consecutive subframes.

Classifications:

International (IPC 8-9): H04J11/00 H04L1/00 H04L1/12 H04L1/16 H04L1/18 H04L12/18 H04L12/26 H04L29/08 H04L5/00 H04W16/02 H04W16/32 H04W24/02 H04W24/10 H04W28/04 H04W28/16 H04W4/06 H04W4/08 H04W52/04 H04W52/24 H04W72/00 H04W72/04 H04W72/08 H04W84/04 H04W84/10 (Advanced/Invention); H04L1/12 H04W72/04 (Advanced/Non-invention)

CPC: H04W24/10 H04L12/1877 H04L5/0032 H04L5/0053 H04W72/0413 H04W72/005 H04W4/08 H04W4/06 H04L5/0073 H04W72/082 H04J11/005 H04L1/1854 H04L1/1887 H04L2001/125 H04W72/042 H04L1/189 H04W24/02 H04L5/0055 H04W72/0426 H04L1/1825

US: 1/1 370/252 370/312 370/328 370/329



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: TELEFONAKTIEBOLAGET L M ERICSSON PUBL

Assignee(s): (std): ERICSSON TELEFON AB L M ; ERICSSON TELEFON AB L M PUBL ; KAZMI MUHAMMAD ; SIOMINA IANA ; LI SHAOHUA ; TELEFONAKTIEBOLAGET L M ERICSSON PUBL ; TELEFONAKTIEBOLAGET LM ERICSSON PUBL

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Inventor(s): SIOMINA IANASE ; LI SHAOHUACN ; KAZMI MUHAMMADSE
Agent(s): ERICSSON CANADA PATENT GROUP; REES SIMON JOHN LEWIS; CLAYDON MICHELLE LEONIE; CHINA
PATENT AGENT; CASON TODD A ET AL; CASON TODD ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID
IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR
MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK
SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: TRANSMISSION OF SOUNDING REFERENCE SIGNALS FOR ADAPTIVELY CONFIGURED **TDD COMMUNICATION SYSTEMS**

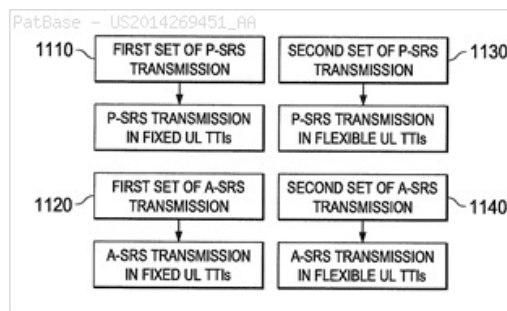
Abstract: Source: US2014269451A [EN] **Methods** and **apparatus** of a base station or a **User** Equipment (UE) in **communication** with each other are provided. The UE is configured by the base station for operation with an adapted **Time Division Duplex (TDD) UpLink-DownLink (UL-DL)** configuration. A process enabling transmission of a Sounding Reference Signal (SRS) from the UE to the base station and a process for the base station to determine parameters for a **DL** transmission to the UE are provided.

Classifications:

International (IPC 8-9): H04B7/26 H04J3/00 H04J3/02 H04J3/16 H04L5/00 H04L5/14 H04W24/00 H04W24/10 H04W4/00 H04W72/04 (Advanced/Invention)

CPC: H04L5/005 H04B7/2656 H04L5/14 H04L5/1469 H04L5/001 H04L5/0048 H04L5/0053

US: 1/1 370/280 370/294 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105052061 A	20151111	CN201480015229	20140313
CN105191185 A	20151223	CN201480015416	20140313
EP2779513 A2	20140917	EP20140159530	20140313
EP2779513 A3	20150527	EP20140159530	20140313
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KR20150129834 A	20151120	KR20157028972	20140313
KR20150132368 A	20151125	KR20157029056	20140313
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Priority:

US20130780182P 20130313	US20130809059P 20130405	US20140933720P 20140130
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Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s): (std): SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s): (std): PAPASAKELLARIOU ARIS ; ZHANG JIANZHONG

Agent(s): NEDERLANDSCH OCTROOIBUREAU; LEE KEON JOO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **MULTIPLEXING UPLINK** L1/L2 CONTROL AND DATA

Abstract: Source: US2011205981A [EN] **Methods** and **systems** for **transmitting** scheduling **requests** in an LTE Advanced **system** are disclosed. Scheduling **requests** may be superimposed on **HARQ** ACK/NACK by multiplying the **HARQ** ACK/NACK by a value. Alternatively, scheduling **requests** may be channel-coded and **multiplexed** with other **uplink** control information. Scheduling **requests** can also be superimposed on reference signals by multiplying a reference signal by a value or by modulating a reference signal with a cyclic shift. Scheduling **requests** may also be jointly coded with **HARQ** ACK/NACK prior to transmission. Alternatively, ACK/NACK responses may be **transmitted** on assigned ACK/NACK PUCCH resources for a negative scheduling **request** transmission and on assigned scheduling **request** PUCCH resources for a positive scheduling **request**. Various collision handling mechanisms are also disclosed.

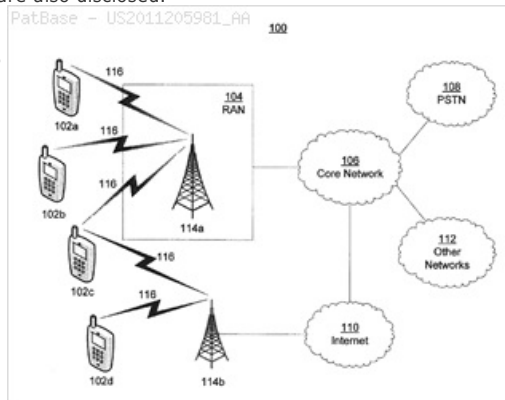
Classifications:

International (IPC 8-9): H04B1/7097 H04B7/26 H04J11/00 H04J13/16 H04L H04L1/00 H04L1/16 H04L1/18 H04L12/26 H04L27/26 H04L5/00 H04Q7/00 H04W24/00 H04W24/08 H04W24/10 H04W28/04 H04W4/00 H04W48/16 H04W72/00 H04W72/04 H04W72/10 H04W72/12 H04W74/04 (Advanced/Invention); H04W48/16 H04W72/00 (Advanced/Non-invention); H04J11/00 H04L1/16 H04L5/00 H04W74/04 (Core/Non-invention); H04L (Subclass/Invention)

CPC: H04L5/0058 H04W72/1284 H04L5/001 H04L5/0055 H04W28/04 H04W72/12 H04L5/0007 H04L1/007 H04L1/0073 H04L5/0048 H04W48/16 H04W72/00 H04L1/0023 H04L1/0028 H04L5/0053 H04L1/0026 H04W24/10 H04W72/0413 H04L1/1822 H04L1/1671 H04W72/10 H04W24/08 H04W72/0446 H04W28/042 H04L1/0027 H04L1/001 H04L5/0016 H04B1/7097 H04L1/0057 H04B2201/7097 H04B2201/698 H04L2001/125 H04W74/0841

European: H04L1/00A9C H04L1/00B7U H04L1/00B8F H04L1/16F15 H04L5/00C5 H04L5/00C6 H04L5/00C7 H04W72/12F2 T04L1/00A9 T04W28/04 T04W48/16 T04W72/00

US: 1/1 370/252 370/252P 370/328 370/328P 370/329 370/329P 370/329S



Family:

Publication number	Publication date	Application number	Application date
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Assignee(s): (std):	BELURI MIHAEL C ; BELURI MIHAELA C ; CAVE CHRISTOPHER ; DENNEAN CHARLES A ; INTERDIGITAL PATENT HOLDINGS INC ; INTERDIGITAL PATENT HOLDINGS ; DICK STEPHEN G ; FAZILI MUHAMMAD U ; FAZILI MUHAMMED U ; HAIM JOHN W ; INTERDIDZHITAL PEJTENT KHOLDINGZ INK ; KOO CHANGSOO ; OLESEN ROBERT L ; PAN KYLE JUNG LIN ; RUDOLF MARIAN ; NAYEB NAZAR SHAHROKH ; MARINIER PAUL ; PAN KYLE ; PELLETIER GHYSLAIN ; TSAI ALLAN Y ; IYER LAKSHMI R ; PAN KYLE JUN LIN ; SHIN SUNG HYUK H ; STERN BERKOWITZ JANET A
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Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **DOWNLINK** SIGNALING FOR ADAPTATION OF AN **UPLINK-DOWNLINK** CONFIGURATION IN **TDD COMMUNICATION SYSTEMS**

Abstract: Source: US2014293843A [EN] An **apparatus** includes a **User Equipment (UE)** having a receiver and a decoder. The receiver is configured to receive, from an eNodeB (eNB), a signal indicating a configuration of a period to receive one or more Physical **Downlink** Control Channels (PDCCHs) in respective one or more Transmission **Time Intervals (TTIs)**. Each of the one or more PDCCHs conveys a same **Downlink** Control Information (DCI) format. The DCI format includes at least one field indicating a first **Time Division Duplexing (TDD) UpLink-DownLink (UL-DL)** configuration in a first cell for **DL** data receptions or **UL** data transmissions. A **TDD UL-DL** configuration includes ten **TTIs** each having a respective serial index from 0 to 9. The receiver is also configured to receive, from the eNB, at least one PDCCH of the one or more PDCCHs. The decoder is configured to decode the DCI format conveyed by the at least one PDCCH in a second cell. The period is a multiple of ten **TTIs**, and the one or more **TTIs** are in a last ten **TTIs** of the period.

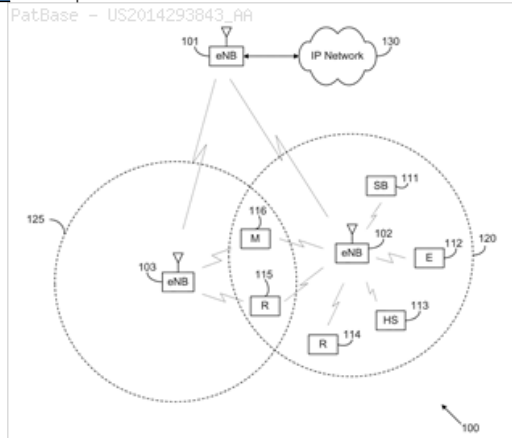
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International (IPC 8-9): H04J4/00 H04L1/00 H04L5/14 H04W52/04 H04W52/24 H04W52/32 H04W72/04 H04W72/12 (Advanced/Invention); H04W52/14 H04W72/12 (Advanced/Non-invention)

CPC: H04W72/042 H04L5/14 H04L1/00 H04W52/04 H04W52/146

H04W52/243 H04W52/325 H04L5/0037 H04L5/0053 H04W72/1289

US: 370/280



Family:

Publication number	Publication date	Application number	Application date
AU2014244663 AA	20141002	AU20140244663	20140328
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Priority:

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Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s): (std): SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s): (std): LI YING ; PAPASAKELLARIOU ARIS

Agent(s): GRIFFITH HACK; NEDERLANDSCH OCTROOIBUREAU; LEE KEON JOO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **WIRELESS COMMUNICATION METHODS, SYSTEMS, AND SIGNAL STRUCTURES**

Abstract: Source: US2007105508A [EN] **Systems** and **methods** for performing OFDM MIMO **communications** are provided. These include a frame structure; **methods** of combining various types of MIMO such as STTD and SM; sub-channel definitions; sub-FFT channel constructions; fast control channels; additional modulations; and group antenna **transmit** diversity; new incremental redundancy schemes.

Classifications:

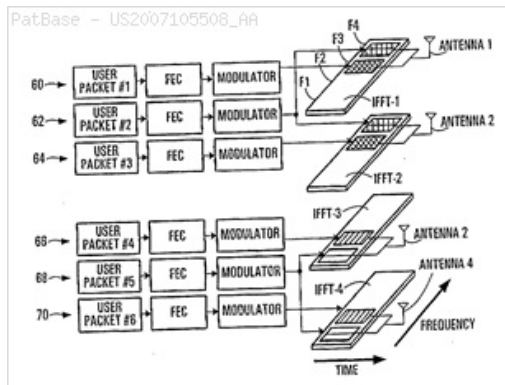
International (ipc 8-9): G06F11/07 H03M13/00 H03M13/05 H03M13/11 H03M13/27 H04B1/02 H04B7/02 H04B7/04 H04B7/06 H04B7/08 H04B7/208 H04B7/216 H04H60/31 H04J11/00 H04J3/02 H04L1/00 H04L1/02 H04L1/06 H04L25/02 H04L27/20 H04L27/26 H04L27/28 H04L5/00 H04L5/02 H04L5/06 H04L5/14 H04L7/00 H04M1/00 H04Q7/22 H04Q7/30 H04Q7/38 H04W4/00 H04W52/02 H04W68/00 H04W68/02 H04W72/00 H04W72/04 H04W74/08 (Advanced/Invention); H04B1/69 H04B1/713 H04L1/00 H04L1/18 H04L25/02 H04L27/26 H04W28/06 H04W99/00 (Advanced/Non-invention); G06F11/07 H03M13/00 H04B1/02 H04B7/02 H04B7/04 H04B7/08 H04B7/204 H04J11/00 H04L27/26 H04L5/02 H04M1/00 H04Q7/22 H04Q7/30 H04Q7/38 (Core/Invention); H04L25/02 (Core/Non-invention); H04B H04J H04L H04W (Subclass/Invention)

International (ipc 1-7): H03M13/05 H03M13/11 H03M13/27 H04B7/06 H04B7/208 H04J11/00 H04L27/20 H04L5/06 H04L5/14 H04Q7/22 H04Q7/30 H04Q7/38

CPC: H04B1/713 H04B7/0408 H04B7/0667 H04B7/0697 H04B2001/6908 H04J11/00 H04J13/0074 H04J13/18 H04L1/0003 H04L1/0009 H04L1/0057 H04L1/0068 H04L1/0072 H04L1/0625 H04L1/1812 H04L1/1819 H04L1/1845 H04L1/1867 H04L5/0035 H04L5/0044 H04L5/006 H04L5/1469 H04L25/0242 H04L5/0007 H04L5/0028 H04L5/0085 H03M13/1148 H03M13/1185 H03M13/1194 H03M13/27 H04L27/2601 H04W68/00 H04B7/0684 H04L5/0026 H04L25/0204 H04L25/0226 H04L25/0234 H04L27/261 H04B7/0615 H04B7/06 H04L5/0091 H04L5/0092 H04W28/06 H04W72/042 H04W68/02 H04W24/02 H04B7/0691 H04B7/0669 H04B7/0689 H04B7/0891 H04L1/0069 H04L1/0643 H04L1/0662 H04L1/0668 H04L27/2602 H04L27/2626 H04L27/2647 H04B7/02 H04L5/0023 H04L5/0048 H04L27/2613 H04L27/2655 H04L27/2686 H04W72/0413 H04W74/0866 H04W72/0453 H04L27/2692 H04B7/0452 H04L7/043 H04L27/265 H04L5/0058

European: H03M13/11L3 H03M13/11L3T3 H03M13/11L7R H03M13/27 H04B7/04B H04B7/06C2 H04B7/06C2C H04B7/06C6 H04B7/06H1 H04B7/06H2 H04B7/06M H04B7/08S H04J11/00 H04L1/00B7B H04L1/00B7R1 H04L1/00B7R1P H04L1/00B8 H04L1/06T3 H04L1/06T7B H04L1/06T7L H04L1/06T7T H04L1/18T H04L25/02C1 H04L25/02C7A H04L27/26M1 H04L27/26M3 H04L27/26M5 H04L5/00A3C H04L5/00A4 H04L5/00A9 H04L5/00C1B H04L5/00C4 H04L5/00C5 H04L5/00C7A H04L5/00C8E H04L5/14T H04Q7/38P H04W68/00 H04W74/08F T04B1/69G T04B1/713 T04J13/00C T04J13/18 T04L1/00A1M T04L1/00A5 T04L1/18D T04L1/18D2 T04L1/18R3C T04L25/02C1 T04L25/02C11A T04L25/02C7A T04L25/02C7C1A1 T04L5/00A2A1 T04L5/00C5 T04L5/00C7A T04W28/06 T04W68/00

US: 1/1 370/203 370/206 370/206P 370/208 370/208S 370/252 370/280 370/280P 370/311 370/311S 370/312 370/328 370/328P 370/329 370/329S 370/330 370/330S 370/331 370/332 370/333 370/334 370/335 370/335S 370/343 370/344 370/432 370/437 375/260 375/260P 375/260S 375/267 375/267P 375/267S 375/295 455/101 455/101P 455/420 455/450 455/464 455/509 455/562.1 455/562.100S 714/752 714/752P 714/758 714/E11.021 714/E11.021S



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Publication number	Publication date	Application number	Application date
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Priority:

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US20170823120	20171127				

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Inventor(s): MA JIANGLEI KANATA ; JIA MING OTTAWA ; FONG MO HAN L ORIGNAL ; JIA MING TONG WEN MA JIANGLEI ZHU PEIYING YU DONG SHENG ; MA JIANGLEI JIA MING TONG WEN ZHU PEIYING ROYER CLAUDE ; FONG MO HAN L ORIGINAL ; TONG WEN OTTAWA ; MUXIAN FANG ; MA JIANGLEI JIA MING TONG WEN ZHU PEIYING... ; ZHU PEIYING KANATA ; ZHANG HANG NEPEAN ; ZHANG HANG FONG MO HAN PERIYALWAR SHALINI ZHU... ; TONG WEN JIA MING ZHU PEIYING MA JIANGLEI... ; JIA MING TONG WEN MA JIANGLEI ZHU PEIYING YU...

Agent(s): BARDEHLE PAGENBERG PARTNERSCHAFT MBB PATENTANWAELTE RECHTSANWAELTE; PORTCH DANIEL; LANG JOHANNES; SMART AND BIGGAR PO BOX 2999 STATION D; CHRISTOPHER AND WEISBERG PA; MEYERTONS HOOD KIVLIN KOWERT AND GOETZEL P C; MEYERTONS HOOD KIVLIN KOWERT AND GOETZEL PC; FAY KAPLUN AND MARCIN LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** REFERENCE SIGNAL

Abstract: Source: US2012033630A [EN] The present invention relates to a **wireless communication system**, and more specifically, to a **method** and an **apparatus** for **transmitting** an RS (Reference Signal) from a transmission end. The present invention relates to an RS transmission **method** and an **apparatus** therefore, comprising the steps of: confirming RS resources which are defined according to each layer; and **transmitting** the precoded RS for the layers to a receiving end through a multiple antenna, wherein the RS resource includes a 1st index for indicating an RS resource pattern group in which the precoded RS is mapped within a resource **block** and a 2nd index for indicating a code resource for **multiplexing** the precoded RSs within the RS resource pattern group.

Classifications:

International (IPC 8-9): H04B17/02 H04B7/04 H04B7/06 H04B7/10 H04B7/14 H04B7/15 H04B7/216 H04B7/26 H04J1/00 H04J1/20 H04J11/00 H04J13/00 H04J13/16 H04J99/00 H04L1/00 H04L1/06 H04L27/26 H04L5/00 H04W16/26 H04W16/28 H04W40/00 H04W40/24 H04W52/14 H04W52/32 H04W52/58 H04W72/04 H04W92/12 (Advanced/Invention); H04L25/02 H04L5/00 H04W40/24 H04W52/14 H04W52/32 H04W52/58 H04W92/12 (Advanced/Non-invention)

CPC: H04B7/0678 H04B7/0684 H04L1/0027 H04L27/2653 H04L27/2627 H04J13/004 H04B7/0473 H04L27/2611 H04L5/0053 H04L25/0224 H04B7/155 H04B7/2606 H04L5/0032 H04L5/0051 H04L5/0094 H04L25/0204 H04L25/0226 H04L25/0242 H04L5/0091 H04L5/0007 H04W72/042 H04W52/146 H04W52/325 H04W52/58 H04W92/12 H04B7/1555 H04L27/261 H04W72/0446 H04W72/0453 H04B7/15507 H04W84/047 H04L5/0048 H04B7/15557 H04L5/0023 H04B7/14 H04L27/26 H04W40/244 H04W72/04

European: H04B7/04M7C5 H04B7/06C6 H04B7/155 H04B7/155H H04B7/26B2 H04L1/00A9C H04L25/02C7A H04L5/00C1 H04L5/00C5B H04L5/00E2 T04B7/06C3 T04L25/02C1 T04L25/02C11A T04L5/00A3C T04W92/12

US: 1/1 370/315 370/315P 370/317 370/329 370/329P 370/330 370/335 370/339 375/211 375/211P 375/315 375/324



Family:

Publication number	Publication date	Application number	Application date
CA2767997 AA	20110120	CA20102767997	20100713
CA2767997 C	20160126	CA20102767997	20100713
CA2768349 AA	20110120	CA20102768349	20100719
CA2768349 C	20150929	CA20102768349	20100719
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CN102396165 B	20141217	CN201080017065	20100415
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CN102577164 B	20150304	CN201080035530	20100719
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EP3226503 A1	20171004	EP20170172006	20100713
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JP5237503 B2	20130717	JP20120520548T	20100719
JP5607807 B2	20141015	JP20130212555	20131010
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KR101813847 B1	20180102	KR20177018083	20100713
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KR20120051635 A	20120522	KR20127000324	20100713
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US2012114021 AA	20120510	US20100383804	20100713
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Priority:

US20090169697P 20090415	US20090173199P 20090427	US20090173220P 20090428
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Inventor(s): (std): CHUNG JAE HOON ; HAN SEUNG HEE ; HO MOON SUNG ; HOON CHUNG JAE ; HYEON KWON YEONG ; IL LEE MOON ; JIN PARK KYU ; KO HYUN SOO ; KWON YEONG HYEON ; LEE MOON II ; LEE MOON IL ; MOON SUNG HO ; NOH MIN SEOK ; PARK KYU JIN ; SEOK NOH MIN ; SOO KO HYUN

Agent(s): SMART AND BIGGAR; FRENKEL MATTHIAS ALEXANDER; KATERLE AXEL; LEE HONG DEGERMAN KANG AND WAIMEY; BIRCH STEWART KOLASCH AND BIRCH LLP; JONATHAN; MICHAEL; LEE HONG DEGERMAN KANG AND WALMEY; LEE HONG DEGERMAN KANG WAIMEY; KIM YONG IN ET AL; YANG MOON OCK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: INTER-CELL INTERFERENCE CANCELLATION FRAMEWORK

Abstract: Source: US2010009634A [EN] **Communication** techniques enable efficient **communication** to an UE (**User Equipment**) that is subject to a dominant interference signal that is **transmitted** by a different base station. Disclosed interference cancellation techniques, both UE-centric and **network**-centric, are suitable to this situation. These techniques are particularly advantageous when undesirable or difficult to introduce changes in the physical (PHY) and medium access control (MAC) layers at the existing base stations. UE-centric framework refers to an approach largely implemented by UEs to include pico or femto cells. **Network**-centric framework closed-loop coordination between base stations and UEs mitigate interference thereby improving **network** performance. In particular, an interfering base-station can help a "victim" UE by adjusting **downlink** pilot and control power and to adjust traffic data rates responsive to information that the "victim" UEs provide, including information about the interfering link and performance of the cancellation itself sent over the air or using the backhaul.

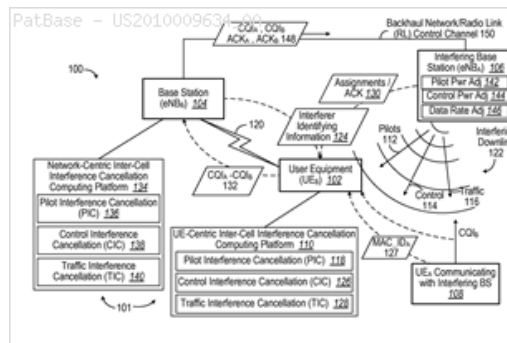
Classifications:

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European: H04L1/18D H04L25/03B H04L5/00C7A H04W48/08 H04W52/24J1 H04W72/08B T04W72/04F

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**Family:**

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BRPI0915578 A2	20180206	BR2009PI15578	20090526
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Priority:

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Probable Assignee: QUALCOMM INC

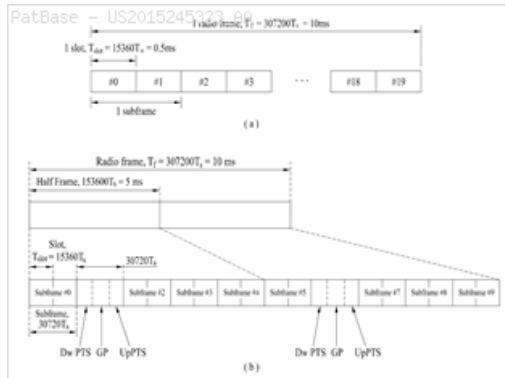
Assignee(s): (std):	AGRAWAL AVNEESH ; BUDIANU PETRU C ; GAAL PETER ; GOROKHOV ALEXEI Y ; QUALCOMM INC ; PALANKI RAVI ; QUAL COMM INC
Assignee(s):	QUALCOMM INCORPORATEDUS ; KVEHLKOMM INKORPOREJTED ; QUALCOMM INC SAN DIEGO
Inventor(s): (std):	BUD JANU PETRU K ; GOROKHOV ALEXEI YURIEVITCH ; RAVI PALANKI ; PALANKI RAVI ; GOROKHOV ALEXEI Y ; GAAL PETER ; BUDIANU PETRU C ; AGRAWAL AVNEESH ; BUDIANU PETRU
Inventor(s):	BUD'JANU PETRU K. ; AVNEESH AGRAWAL ; ALEXEII GOROKHOV ; ALEXEI Y GOROKHOV ; PETER GAAL ; PETRU C BUDIANU
Agent(s):	SMART AND BIGGAR; BARDEHLE PAGENBERG PARTNERSCHAFT MBB PATENTANWAELTE RECHTSANWAELTE; GATES MARIE CHRISTINA ESTHER; DUNLOP HUGH CHRISTOPHER; WEGNER HANS; FORTEA JUAN JOSE; QUALCOMM INC; KAM T; NERRIE M; LARRY; DALEI; CORIE FLORIN C
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **USER** EQUIPMENT FOR RECEIVING **DOWNLINK** SIGNAL AND **METHOD** AND BASE STATION FOR **TRANSMITTING DOWNLINK** SIGNAL

Abstract: Source: US2015245323A [EN] The present invention provides: a base station for **repeatedly transmitting** a physical **downlink** control channel (PDCCH) during a first subframe bundle comprising a plurality of subframes, and **transmitting** a PDSCH related to the PDCCH; and **user** equipment for receiving the PDCCH and the PDSCH. The PDSCH can be **transmitted** to the **user** equipment starting from subframe $n+k$, which is the k th subframe after the last subframe $n-1$ in the first subframe bundle, wherein k is an integer bigger than 0. The first subframe bundle may begin from a predetermined or fixed position.

Classifications:

International (IPC 8-9): H04B17/318 H04B7/26 H04J11/00 H04J99/00 H04L1/00 H04L1/08 H04L1/12 H04L1/18 H04L27/26 H04L5/00 H04L5/14 H04W16/26 H04W28/04 H04W28/06 H04W28/18 H04W4/00 H04W48/00 H04W48/08 H04W48/16 H04W72/00 H04W72/04 H04W72/12 H04W74/00 H04W88/08 (Advanced/Invention); H04L5/00 H04L5/14 H04W28/06 H04W88/08 (Advanced/Non-invention)
CPC: H04L5/0007 H04W72/042 H04W74/006 H04W72/044 H04L1/1864 H04W88/08 H04J2211/005 H04B7/2612 H04W72/0446 H04L5/0092 H04L1/1858 H04B17/318 H04L5/0051 H04L5/0053 H04L5/0094 H04W28/06 H04B7/2656 H04L1/08 H04L1/1812 H04L1/1816 H04L1/189 H04L5/001 H04L5/0023 H04L5/0035 H04L5/0044 H04L5/0055 H04L5/0082 H04L5/1469 H04L27/2602 H04L27/2613 H04L1/1819 H04L5/0048 H04W4/70 H04L25/0224 H04L25/03343 H04L2025/03802 H04B7/024 H04B7/0456
US: 370/329 370/330

**Family:**

Publication number	Publication date	Application number	Application date
CN104798329 A	20150722	CN201380059028	20131113
CN104798400 A	20150722	CN201480003107	20140109
CN104823396 A	20150805	CN201480003251	20140114
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US2015245323 AA	20150827	US20140428909	20140114
US2015257173 AA	20150910	US20140430730	20140109
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US9876615 BB	20180123	US20130437427	20131113
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Priority:

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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): AHN JOON KUI ; AHN JOONKUI ; KIM BONG HOE ; KIM BONGHOE ; SEO DONG YOUN ; SEO DONGYOUN ; YANG SUCK CHEL ; YANG SUCKCHEL ; YI YUN JUNG ; YI YUNJUN ; YI YUNJUNG ; YOU HYANG SUN ; YOU HYANGSUN

Agent(s): CABINET PLASSERAUD; KATERLE AXEL; FRENKEL MATTHIAS ALEXANDER; ELZABURU SLP ELZABURU SLP; AOKI ATSUSHI; TSURUTA JUNICHI; JONATHAN; MICHAEL; LEE HONG DEGERMAN KANG AND WALMEY; LEE HONG DEGERMAN KANG AND WAIMEY; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG

SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHODS** AND **APPARATUS** FOR SUBFRAME INTERLACING IN HETEROGENEOUS **NETWORKS**

Abstract: Source: US2011188481A [EN] **Methods** and **apparatus** for providing **wireless communications** using subframe partitioning are disclosed. Two or more base stations may be allocated subframes in a radio frame. All or part of the subframe allocation may be provided to the associated **user** equipment (UEs), which may use it to determine signal metrics during assigned subframes for an associated base station.

Classifications:

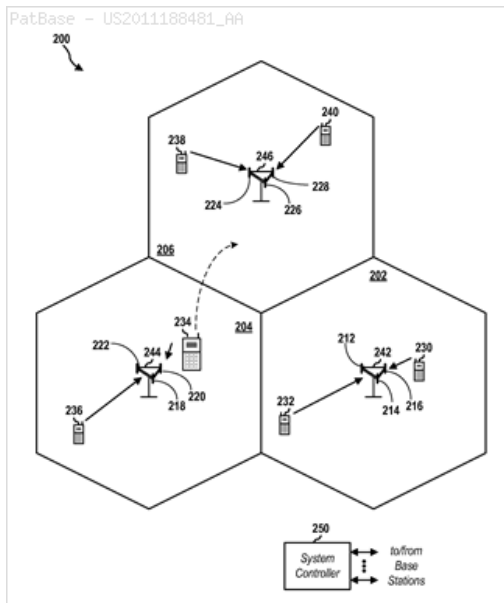
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International (ipc 1-7): H04W72/04

CPC: H04W16/10 H04W16/14 H04W72/04 H04W72/0446 H04L1/0026 H04L5/22 H04W16/32 H04W72/042 H04J11/0079 H04L5/0057 H04J2211/005 H04L5/0092

European: H04W72/04 T04W72/04F4

US: 1/1 370/329 370/329S 370/336 370/336P



Family:

Publication number	Publication date	Application number	Application date
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EP2608618 A2	20130626	EP20130000903	20100915
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Probable Assignee: QUALCOMM INC

Assignee(s): (std): BARANY PETER A ; DAMNJANOVIC ALEKSANDAR ; QUALCOMM INC ; WEI YONGBIN

Assignee(s): QUALCOMM INCORPORATED ; QUALCOMM INC SAN DIEGO ; KVEHLKOMM INKORPOREJTED

Inventor(s): (std): ALEKSANDAR DAMNJANOVIC ; BARANY PETER ; BARANY PETER A ; BARANY PETER A PA ; PETER A BARANY ; WEI YONG BIN ; WEI YONGBIN ; YONGBIN WEI ; VEJH JUNBIN ; DAMNJANOVICH ALEKSANDAR ; BAREHNI PITER EH ; DAMNJANOVIC ALEKSANDAR ; DAMNJANOVIC ALEKSANDAR A

Agent(s): SMART AND BIGGAR; WAGNER AND GEYER PARTNERSCHAFT MBB PATENT U RECHTSANWAELTE; WIMMER HUBERT; FORTEA JUAN JOSE; SANFORD TCOLB AND CO; NERRIE M; ZOHNN NERRIE M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR CONTROLLING **UPLINK** POWER IN **WIRELESS COMMUNICATION SYSTEM** AND **DEVICE** THEREFOR

Abstract: Source: US2015341866A [EN] The present invention relates to a **wireless communication system** and, more specifically, provides a **method** for controlling **uplink** power and a **device** therefor. The **method** whereby **user** equipment controls **uplink** transmission power in a **wireless communication system** according to one embodiment of the present invention may comprise the steps of: receiving first **uplink-downlink (UL-DL)** configuration information from a base station through a **system information block**; receiving second **UL-DL** configuration information for a **downlink hybrid automatic repeat and request (HARQ)** operation from the base station; receiving a transmission power control (TPC) command from the base station; and determining **uplink** transmission power for a first **uplink** channel on the basis of the first **UL-DL** configuration information and the TPC command and determining **uplink** transmission power for a second **uplink** channel on the basis of the second **UL-DL** configuration information and the TPC command.

Classifications:

International (IPC 8-9): G08C17/00 H04B7/26 H04L1/18 H04L5/14

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H04W88/08 (Advanced/Invention);

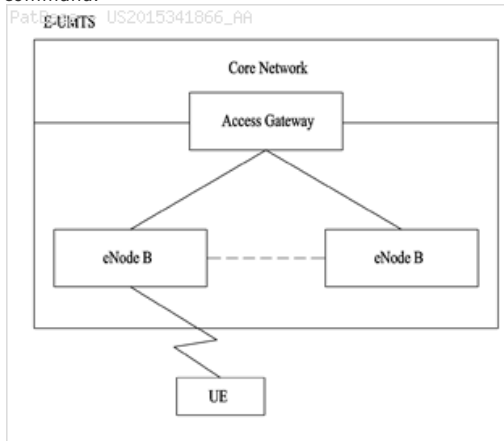
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H04W52/06 H04W52/38 H04W52/54 H04W52/146 H04W52/228

US: 370/280 455/522



Family:

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Priority:

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Probable Assignee: LG ELECTRONICS INC

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Inventor(s): (std): LEE SEUNG MIN ; LEE SEUNGMIN ; PARK JONG HYUN ; PARK JONGHYUN ; SEO HAN BYUL ; SEO HANBYUL

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR APERIODIC **FEEDBACK** OF CHANNEL STATE INFORMATION IN A **WIRELESS** ACCESS **SYSTEM** SUPPORTING MULTI-CARRIER AGGREGATION

Abstract: Source: US2013121301A [EN] The present invention relates to a **wireless** access **system** supporting multi-carrier aggregation (CA) and discloses various **methods** and **devices** for aperiodic **feedback** of channel state information (CSI). The **method** for aperiodic **feedback** of the channel state information (CSI) in the **wireless** access **system** supporting the multi-carrier aggregation (CA), according to an embodiment of the present invention, comprises the steps of: receiving a first message including an aperiodic CSI **request** field and **uplink** grant from a base station; receiving a second message including bitmap information indicating a **downlink** component carrier (**DL** CC) subjected to CSI measurement from the base station; measuring the CSI in consideration of at least one of the aperiodic CSI **request**, **uplink** grant, and bitmap information; and **transmitting** the measured CSI to the base station through a physical **uplink** shared channel (PUSCH) to thereby receive aperiodic **feedback** of the same.

Classifications:

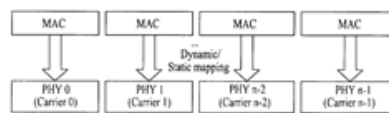
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CPC: H04B7/0647 H04L5/001 H04W24/10 H04L1/0026 H04W72/0446 H04W72/0413 H04W72/0453 H04W72/042 H04L5/0057 H04W72/14 H04L5/0053 H04W76/046 H04W76/27

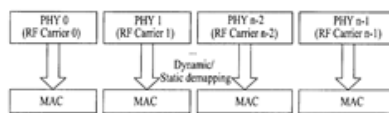
European: H04W24/10 T04W72/04F4

US: 1/1 370/329

PatBase - US2013121301_AA



(a)



(b)

Family:

Publication number	Publication date	Application number	Application date
CA2807077 AA	20130124	CA20112807077	20110506
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WO12015154 A1	20120202	WO2011KR03390	20110506

Priority:

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US20170815440	20171116				

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Assignee(s): (std): HAN SEUNGHEE ; KIM SOYEON ; LG ELECTRONICS INC ; NOH MINSEOK ; CHUNG JAEHOON
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: RESOURCE METRIC QUANTIZATION IN **WIRELESS** DATA **COMMUNICATIONS**

Abstract: Source: US2011044183A [EN] A resource metric quantization is described that has use for resources of **wireless** data **communications system**. In one example the quantization include measuring a signal parameter for a plurality of frequency partitions, setting a first resource metric for a first frequency partition equal to a first value, determining a second and a third resource metric for a second and third frequency partition, respectively, based on comparing the measured signal parameter for the second and third frequency partitions to the measured signal parameter for the first partition, encoding a second and a third resource metric, and **transmitting** the encoded resource metrics to a remote **wireless** station.

Classifications:

International (IPC 8-9): G06F15/16 G06F15/177 H04B17/02 H04B17/40 H04B7/00 H04B7/15 H04B7/26 H04H20/71 H04J1/00 H04J1/16 H04J11/00 H04L1/00 H04L1/18 H04L12/26 H04L12/28 H04L27/18 H04L27/26 H04L29/12 H04L5/00 H04M1/00 H04M1/73 H04Q7/00 H04Q7/24 H04W12/02 H04W16/02 H04W16/26 H04W16/28 H04W16/32 H04W24/00 H04W28/04 H04W28/06 H04W28/16 H04W28/18 H04W36/00 H04W36/02 H04W36/04 H04W36/30 H04W4/00 H04W4/06 H04W4/08 H04W4/12 H04W4/14 H04W40/00 H04W48/08 H04W48/10 H04W48/16 H04W48/18 H04W48/20 H04W52/02 H04W60/00 H04W60/06 H04W68/02 H04W72/00 H04W72/02 H04W72/04 H04W72/08 H04W72/12 H04W76/04 H04W8/18 H04W8/22 H04W8/26 H04W80/02 H04W80/04 H04W88/02 H04W88/04

H04W88/06 (Advanced/Invention);
G08C17/02 H04M7/00 H04W28/18 H04W72/04 H04W88/06 (Advanced/Non-invention);
H04W (Subclass/Invention)

International (IPC 1-7): H04B7/26

CPC: G08C17/02 G08C2201/41 H04L61/2015 H04M7/0069 H04W80/04 H04W72/085 H04W72/0453 H04W4/14 H04L1/008 H04L1/1671 H04W72/042 H04B7/2612 H04L63/04 H04W28/04 H04L5/0053 H04W4/06 H04W72/1284 H04L5/0098 H04W8/22 H04W88/06 H04W28/18 H04W8/26 Y02D70/1224 Y02D70/1226 Y02D70/1242 Y02D70/1244 Y02D70/1246 Y02D70/1262 Y02D70/1264 Y02D70/142 Y02D70/144 Y02D70/146 Y02D70/162 Y02D70/164 Y02D70/166 Y02D70/168 Y02D70/22 Y02D70/23 Y02D70/26 Y02D70/00 H04W76/45

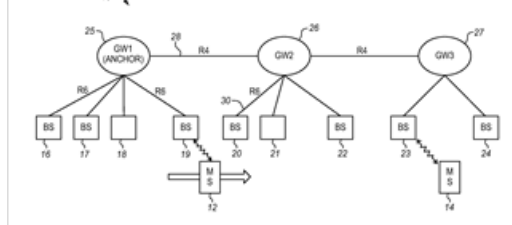
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US: 370/235 370/252 370/252P 370/254 370/277 370/277P 370/312 370/312P 370/328 370/328P 370/328S 370/329 370/329P 370/329S 370/331 370/331P 370/338 370/338P 370/338S 370/343 370/390 370/480 370/482 455/11.1 455/13.1 455/16 455/422.1 455/442 455/450 455/507 455/507S 455/509 455/509S 455/562.1 455/7 455/7P 709/220 709/237 709/237P 709/245 709/245S

Family:

Publication number	Publication date	Application number	Application date
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EP2471207 A2	20120704	EP20100814236	20100824
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PatBase - US2011044183_RR



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Priority:

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Probable Assignee: INTEL CORP

Assignee(s): (std): AHMADI SASSAN ; BERGMAN ARAN ; CHEN KUILIN ; ETEMAD KAMRAN ; HUANG QIUPING ; INTEL CORP ; JAIN PUNEET K ; HSUAN YI ; LOMNITZ YUVAL ; HAREL TOM ; MOHANTY SHANTIDEV ; ZHU YUAN ; WANG PING ; YIN HUJUN ; YANG XIANGYING ; VENKATACHALAM MUTHAIAH ; VANNITHAMBY RATH ; SHRIVASTAVA SHWETA ; SHARAGA AVISHAY ; TAAGHOL POUYA

Assignee(s): INTEL KORPOREJSHN

Inventor(s): (std): AHMADI SASSAN ; AKHMADI SASSAN ; BERGMAN ARAN ; CHEN KUILIN ; EHEMAD KAMRAN ; ETEMAD KAMRAN ; HAREL TOM ; HSUAN YI ; HUANG QIUPING ; JAIN PUNEET K ; JAN SJANIN ; KAMRAN ETEMAD ; KUILIN CHEN ; LOMNITZ YUVAL ; MOHANTY SHANTIDEV ; MOKHANTY SHANTIDEV ; MUTHAIAH VENKATACHALAM ; POUYA TAAGHOL ; QIUPING HUANG ; SASSAN AHMADI ; SASSAN AHMADI S ; SHANTIDEV MOHANTY ; SHARAGA AVISHAY ; SHRIVASTAVA SHWETA ; TAAGHOL POUYA ; TAAGKHOL POUJA ; VANNITHAMBY RATH ; VENKATACHALAM MUTHAIAH ; VENKATACHALAM MUTKHAIAKH ; VENKATAKKHALAM MUTKHAJAKH ; WANG PING ; XIANGYING YANG ; YANG XIANGYING ; YIN HUJUN ; YUAN ZHU ; ZHU YUAN ; YUVAL LOMNITZ ; TOM HAREL ; SHWETA SHRIVASTAVA ; RATH VANNITHAMBY ; ARAN BERGMAN ; YI HSUAN ; PING WANG ; HUJUN YIN ; VAN PIN ; KHSUAN I ; IN KHUTSZJUN

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: MAPPING **UPLINK** ACKNOWLEDGEMENT TRANSMISSION BASED ON **DOWNLINK** VIRTUAL RESOURCE **BLOCKS**

Abstract: Source: US2008205348A [EN] An acknowledgment (ACK) mapping automation that reduces overhead for a **wireless communication systems** such as UTRAN-LTE, Global **System** for Mobile **communications** (GSM: originally from Groupe Special Mobile), High-Speed **Downlink** Packet Access (HSDPA), or any packet-switched **system**, by providing a mapping of **uplink (UL)** location (i.e., modulation location in **time**, frequency and code) based upon a **downlink (DL)** allocations. Aspects address dynamic and persistent scheduling of **user** equipment (UE) with a selected combination of implicit and explicit mapping.

Classifications:

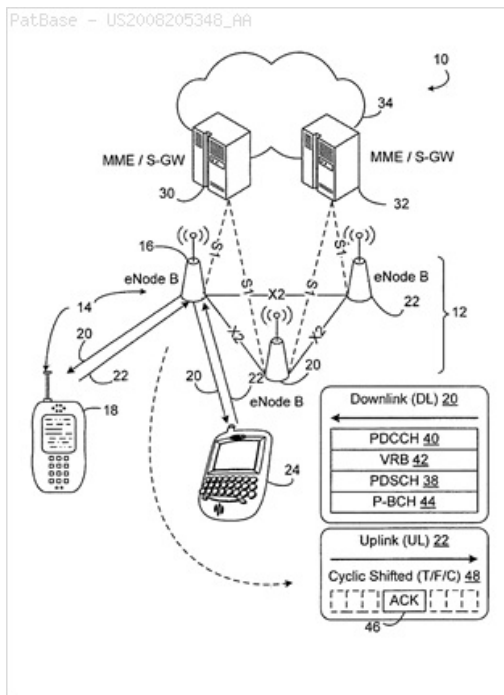
International (IPC 8-9): H04B7/216 H04L1/16 H04L1/18 H04L27/26 H04L5/00 H04W28/00 H04W72/04 H04W72/12 (Advanced/Invention); H04B7/204 H04L1/00 H04L1/16 H04W72/00 (Core/Invention); H04B H04L H04W (Subclass/Invention)

International (IPC 1-7): H04L1/16

CPC: H04L1/1607 H04L1/1812 H04L5/0016 H04L5/0023 H04L5/0053 H04L5/0064 H04L5/0091 H04L27/2613

European: H04L1/16F H04L5/00C6 H04L5/00E T04L1/18D T04L27/26M1R3 T04L5/00A3A T04L5/00A3C T04L5/00C7C

US: 370/236 370/329 370/329P 370/335 370/335P 370/395.4 370/478



Family:

Publication number	Publication date	Application number	Application date
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Assignee(s): (std): MALLADI DURGA PRASAD ; QUALCOMM INC

Assignee(s): QUALCOMM INC SAN DIEGO ; KVEHLKOMM INKORPOREJTED

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Inventor(s): DURGA PRASAD MALLADI ; MALLADI DURGA PRASAD SAN DIEGO ; DURGA PRASAD MALLADI DP

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **DEVICE COMMUNICATION** USING A REDUCED CHANNEL BANDWIDTH

Abstract: Source: US2013083753A [EN] **Systems** and/or **methods** for supporting **communications** at a reduced bandwidth with a full bandwidth **network** such as a long-term evolution (LTE) **network** may be disclosed. For example, inband assignments such as **downlink** assignments and/or **uplink** grants may be provided and/or received and transmissions may be monitored and/or decoded based on the inband assignment. Additionally, information (e.g. a definition or configuration) associated with an ePDCCH may be provided and/or received and ePDCCH resources may be monitored and/or decoded based on such information. An indication for support of a reduced bandwidth by the full bandwidth **network** may also be provided and/or received and control channels in the reduced or narrow bandwidth may be monitored and/or decoded based on the indication. A PRACH preamble and/or a multi-type subframe definition may also be provided and/or used for support of such a reduced bandwidth.

Classifications:

International (IPC 8-9): H04B7/26 H04L29/02

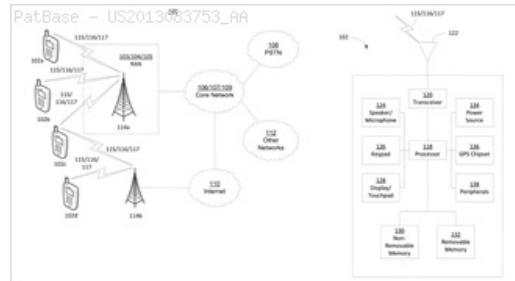
H04W72/04 (Advanced/Invention);

H04W74/08 (Advanced/Non-invention)

CPC: H04B7/2612 H04B7/2603 H04W72/0453 H04W72/042

H04W72/048 H04W74/0833

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
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CN103999528 A	20140820	CN201280048238	20120930
EP2761955 A1	20140806	EP20120772681	20120930
EP2761955 B1	20170726	EP20120772681	20120930
EP3247160 A1	20171122	EP20170175890	20120930
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JP2017139796 A2	20170810	JP20170073889	20170403
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KR20140071480 A	20140611	KR20147011822	20120930
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TW201807988 A	20180301	TW20170135347	20121001
US2013083753 AA	20130404	US20120632037	20120930
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Priority:

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US20120644835P 20120509	US20120682042P 20120810	EP20120772681 20120930
JP20140533458T 20120930	US20120632037 20120930	WO2012US58185 20120930
JP20170073889 20170403		

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Assignee(s): (std): INTERDIGITAL PATENT HOLDINGS ; INTERDIGITAL PATENT HOLDINGS INC

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: DYNAMIC MULTICARRIER OFDM TRANSMISSION

Abstract: Source: US2012307751A [EN] A **wireless device transmits** a message to a server via a base station over a first plurality of subcarriers of a first **uplink** carrier. There is no guard band between any two subcarriers in the first plurality of subcarriers. The **wireless device** receives an activation command from a base station. The **wireless device transmits** data packets to the server via the base station over the first **uplink** carrier and at least one additional **uplink** carrier over a third plurality of subcarriers. There is at least one guard band between at least two subcarriers in the third plurality of subcarriers.

Classifications:

International (IPC 8-9): H04L29/06 H04L5/00 H04W12/04

H04W28/02 H04W4/00 H04W72/04 H04W72/12 (Advanced/Invention);

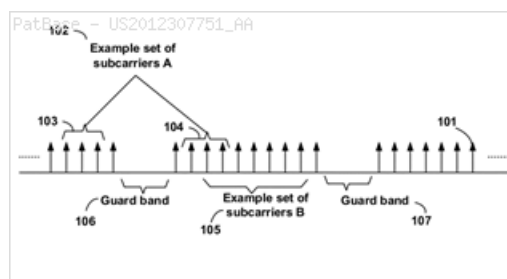
H04W4/00 (Advanced/Non-invention)

CPC: H04L5/003 H04L5/0007 H04L5/0042 H04L5/0044 H04W28/0257

H04L69/22 H04W28/0268 H04W12/04 H04L27/2643 H04W28/0263

European: H04L5/00A2A1 H04L5/00C3 H04L5/00C4

US: 1/1 370/328 370/329



Family:

Publication number	Publication date	Application number	Application date
DE602012002526 D1	20140904	DE201260002526T	20120522
EP2556620 A1	20130213	EP20120725965	20120522
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Priority:

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US20150874404 20151003	US20170414066 20170124	

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Assignee(s): (std): DINAN ESMAEL HEJAZI ; OFINNO TECH LLC ; OFINNO TECHNOLOGIES LLC

Assignee(s): OFINNO TECHNOLOGIES LLC HERNDON

Inventor(s): (std): DINAN ESMAEL HEJAZI

Inventor(s): DINAN ESMAEL HEJAZI HERNDON

Agent(s): WESTPHAL MUSSGUG AND PARTNER PATENTANWALTE MIT BESCHRAENKTER BERUFSHAFTUNG; PATENTANWALTE WESTPHAL MUSSGUG AND PARTNER; DAVID; ESMAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **APPARATUS** AND **METHOD** FOR PERFORMING **COMMUNICATION** USING FRAME STRUCTURE SUPPORTING H-FDD OPERATION

Abstract: Source: US2011013543A [EN] A **method** for performing **communication** using a frame structure that supports a half-frequency division **duplex** (H-FDD) operation and a **device** using the same are disclosed. A base station performs resource allocation scheduling to support H-FDD **user** equipment operation in a mobile **communication system**. For example, the base station allocates first, second and last **uplink** subframes for idle subframes within a specific frame or punctures them, so that the H-FDD **user** equipment does not use the **uplink** subframes. The base station **transmits** the scheduled resource allocation information to the **user** equipment through a superframe header, a preamble and a MAP. The **user** equipment which has received the scheduled resource allocation information (subframe index and location that can be used by the **user** equipment) **transmits** and receives a signal based on the resource allocation information.

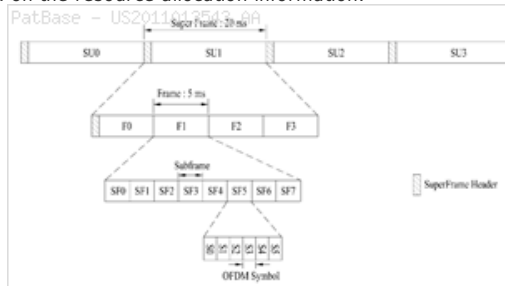
Classifications:

International (IPC 8-9): H04B7/14 H04B7/15 H04B7/155 H04B7/26 H04J1/00 H04J1/02 H04J1/06 H04J1/00 H04J3/12 H04L5/14 H04W16/26 H04W28/06 H04W28/16 H04W36/00 H04W36/08 H04W36/14 H04W4/00 H04W4/06 H04W48/18 H04W52/02 H04W68/02 H04W72/04 H04W72/12 H04W76/02 H04W80/02 H04W84/18 H04W88/04 (Advanced/Invention)

CPC: H04L5/0044 H04L5/14 H04W68/00 H04B7/2606 H04W36/00 H04W84/047 H04W88/04 H04W36/0011 H04W36/14 H04W36/08 H04W72/0413 H04L5/0007 H04L5/005 H04L5/0094 H04L5/1469 H04L1/1812 H04L1/1887 H04J1/02 H04L5/16 H04W72/042 H04L1/0083 H04W72/12 H04W84/08 H04B7/155

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US: 370/281 370/281P 370/295 370/315 370/315P 370/329 370/329S 370/331 370/528 455/436



Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHO HAN GYU ; CHO HEE JEONG ; CHO HEEJEONG ; CHOI JIN SOO ; KWAK JIN SAM ; LG ELECTRONICS INC ; KWON YEONG HYEON ; KIM YONGHO ; HAHN GENEBECK ; KIM YONG HO ; JUNG IN UK ; LIM DONG GUK ; MOON SUNG HO ; YUK YOUNGSOO ; RYU KISEON ; PARK GIWON ; PARK GI WON ; YUK YOUNG SOO ; RYU KI SEON ; MOON SEONG HO

Assignee(s): EHLZDZHI EHLEKTRONIKS INK

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **SYSTEM** AND **METHOD** FOR MULTI-CARRIER **NETWORK** OPERATION

Abstract: Source: US2013010619A [EN] **Methods**, **devices**, and **systems** for multi-carrier **network** operation are disclosed. In one embodiment, a **method** of pairing and linking carriers in a multi-carrier **network**, wherein the multi-carrier **network** includes a **downlink** carrier, a first **uplink** carrier, and a second **uplink** carrier between a base station and a **user** equipment (UE), comprises receiving a Radio Resource Control (RRC) signaling; pairing the first **uplink** carrier with the **downlink** carrier using information in the RRC signaling, wherein the information includes the pairing of the **downlink** carrier with the first **uplink** carrier; and linking the second **uplink** carrier with the **downlink** carrier using information in the RRC signaling, wherein the information includes the linking of the **downlink** carrier with the second **uplink** carrier.

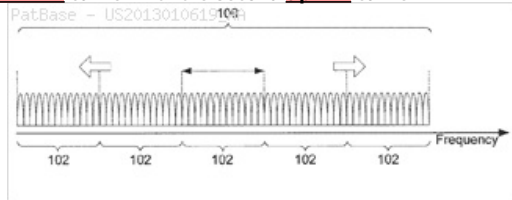
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H04L5/00 H04W24/10 H04W36/00 H04W36/18 H04W48/16
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CPC: H04W36/30 H04W24/10 H04W36/0088 H04W36/18 H04W48/12
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H04W74/002 H04W74/0833

European: H04W24/10 H04W36/30 H04W48/12 H04W74/00C T04W36/00P8C T04W36/18 T04W48/02 T04W48/16
T04W68/00 T04W72/00 T04W74/08D

US: 370/216 370/252 370/328 370/329 455/450



Family:

Publication number	Publication date	Application number	Application date
CA2775305 AA	20120323	CA20102775305	20100924
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CA2775313 AA	20120323	CA20102775313	20100924
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WO11038243 A3	20110721	WO2010US50218	20100924

Priority:

US20090246052P	20090925	US20090248150P	20091002	US20100293547P	20100108
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Assignee(s): (std): BLACKBERRY LTD ; BURBIDGE RICHARD CHARLES ; FONG MO HAN ; EARNSHAW ANDREW MARK ; HEO YOUNG HYOUNG ; CAI ZHIJUN ; RESEARCH IN MOTION LTD ; HEO YOUNG HYOUNG ; MCBEATH SEAN MICHAEL ; LI JUN ; SUZUKI TAKASHI ; XU HUA

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Agent(s): RIDOUT AND MAYBEE LLP; FINNIE PETER JOHN; Finnie Peter John; GILL JENNINGS AND EVERY LLP; FISH AND RICHARDSON PC; SMITH ROWAN P

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **DOWNLINK** FLOW CONTROL

Abstract: Source: US2009161545A [EN] **Systems** and methodologies are described that facilitate providing flow control **feedback** for controlling **downlink** data transmission rates. Various schemes can be utilized to send the flow control **feedback** from an access terminal to a base station. For example, a control PDU (e.g., MAC control PDU, PDCP control PDU) can be generated based upon a level of resource utilization of the access terminal, and sent to the base station for controlling the **downlink** data transmission rate. Following this example, a type of control PDU, a value included within the control PDU, etc. can be selected as a function of the level of resource utilization. By way of another illustration, a CQI report that includes a value selected as a function of the level of resource utilization associated with the access terminal can be generated and **transmitted** to the base station for controlling the **downlink** data transmission rate.

Classifications:

International (IPC 8-9): H04J3/00 H04L1/00 H04L12/24 H04L12/56 H04L12/801 H04L12/815 H04L12/825 H04Q7/38 H04W24/10 H04W28/02 H04W28/10 H04W28/12 H04W28/22 H04W72/04 H04W72/08 (Advanced/Invention); H04L12/801 H04W28/12 H04W28/22 (Advanced/Non-invention); H04J3/00 H04L12/24 H04L12/56 H04W28/02 H04W28/16 H04W72/00 (Core/Invention); H04L12/56 H04Q7/38 (Core/Non-invention)

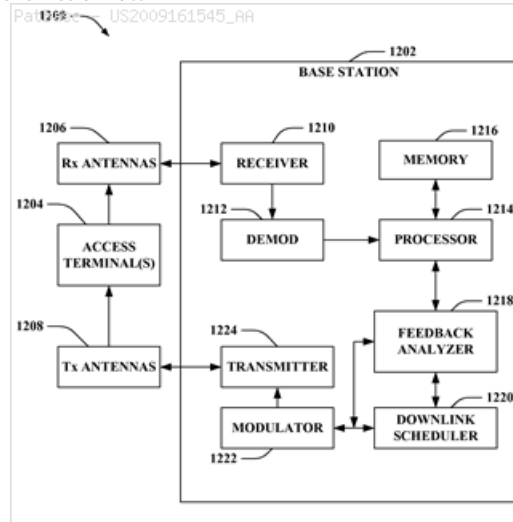
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European: H04L47/10 H04L47/14 H04L47/22A H04L47/26A H04L47/26A1 H04L47/39 H04W28/12 T04W28/22

US: 1/1 370/230 370/235 370/235P 370/336 370/336S 455/452.2 455/452.200S



Family:

Publication number	Publication date	Application number	Application date
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US2014362695 AA	20141211	US20140469462	20140826
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US9130702 BB	20150908	US20140469462	20140826
WO09086195 A2	20090709	WO2008US87826	20081219
WO09086195 A3	20090917	WO2008US87826	20081219

Priority:

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL

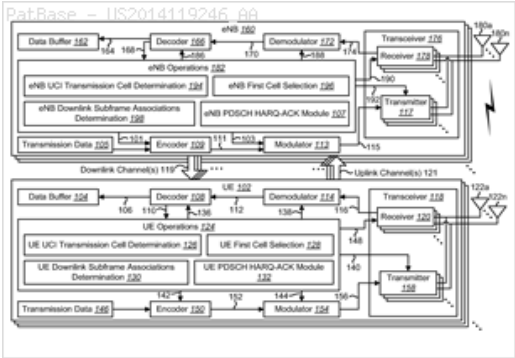
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Title: **SYSTEMS** AND **METHODS** FOR CARRIER AGGREGATION

Abstract: Source: US2014119246A [EN] A **User** Equipment (UE) for performing carrier aggregation is described. The UE includes a **processor** and instructions stored in **memory** that is in electronic **communication** with the **processor**. The UE determines an **uplink** control information (UCI) transmission cell in a **wireless communication network** with at least one frequency-division **duplexing** (FDD) cell and at least one **time**-division **duplexing** (**TDD**) cell. The UE also selects a first cell for FDD and **TDD** carrier aggregation. The UE further determines a set of **downlink** subframe associations for the first cell that indicate at least one UCI transmission **uplink** subframe of the UCI transmission cell. The UE additionally sends Physical **Downlink** Shared Channel (PDSCH) **Hybrid** Automatic **Repeat Request** Acknowledgement/Negative Acknowledgement (**HARQ**-ACK) information in the UCI transmission **uplink** subframe of the UCI transmission cell.

Classifications:

International (IPC 8-9): H04J4/00 H04L1/16 H04L1/18 H04L5/00 H04L5/14 H04Q7/00 H04W28/04 H04W72/04 H04W72/12 (Advanced/Invention)
CPC: H04L1/1861 H04W72/12 H04L5/0053 H04L1/1812 H04L1/1854 H04L5/14 H04L5/0055 H04W72/04
US: 1/1 370/280 370/329 370/330 370/478



Family:

Publication number	Publication date	Application number	Application date
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IN02950CN2015 A	20160701	IN2015CN02950	20150521
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Priority:

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Assignee(s): (std): SHARP CORP ; SHARP KK ; SHARP LAB OF AMERICA INC

Assignee(s): SHARP LABORATORIES OF AMERICA INC

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Agent(s): MUELLER HOFFMANN AND PARTNER; HARAKENZO WORLD PATENT AND TRADEMARK; AUSTIN RAPP AND HARDMAN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: GROUP RESOURCE ALLOCATION TECHNIQUES FOR IEEE 802.16M

Abstract: Source: US2010266057A [EN] Group resource allocation techniques for IEEE 802.16m are generally presented. In this regard a **method** is introduced comprising generating a plurality of bitmaps to identify resource allocations and multiple-input and multiple-output (MIMO) modes for a group of broadband **wireless** mobile stations, wherein each mobile station in the group is assigned a position within a **user** bitmap to identify whether the mobile station is allocated frame resources and wherein the position within one or more MIMO bitmap(s) to identify a MIMO mode, and **transmitting** the bitmaps in a group resource allocation (GRA) information element (IE) of a broadband **wireless** media access protocol (MAP) frame portion. Other embodiments are also disclosed and claimed.

Classifications:

International (IPC 8-9): G06F11/00 G06F11/10 G06F11/14
G06F15/173 G08C25/02 H03M13/03 H03M13/27 H04B17/00
H04B7/00 H04B7/02 H04B7/04 H04B7/26 H04J11/00 H04J3/24
H04L1/02 H04L1/08 H04L1/16 H04L1/18 H04L12/56 H04L13/08
H04L27/28 H04L29/06 H04L29/08 H04L5/00 H04W24/00 H04W24/10
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H04L1/18 H04W4/06 H04W72/04 H04W84/12 (Advanced/Non-invention);

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CPC: H04L5/0037 H04L5/0007 H04L5/0098 H04W72/005 H04L69/16

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H04B7/0417 H04B7/063 H04L1/0026 H04W24/10 H04L5/0053 H04L5/0055 Y02D70/00

European: H04L1/18R3 H04L29/06J H04L29/06J17 H04L29/06K H04L5/00A2A11 H04L5/00C2 H04L5/00E H04L5/00E3A

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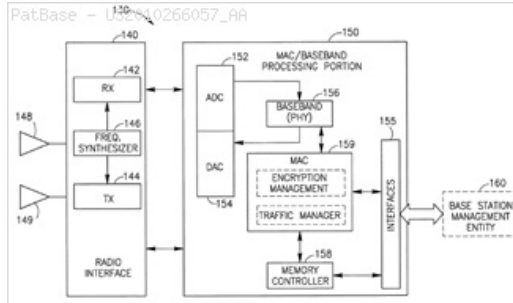
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370/394 370/430 370/474 370/474S 375/260 375/260P 375/267 455/130 455/423 455/440 455/458 455/466 455/509

455/67.13 455/67.130P 455/67.14 709/226 709/226P 714/748 714/748P 714/749 714/750 714/786 714/786P 714/E11.032

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Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: INTEL CORP

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR COOPERATIVE **WIRELESS COMMUNICATIONS**

Abstract: Source: US2009175214A [EN] A **method** and **apparatus** for cooperation in **wireless communications**. Cooperation is considered among a number of **network** elements, including at least one **wireless transmit**-receive unit, at least one relay station, and at least one base station.

Classifications:

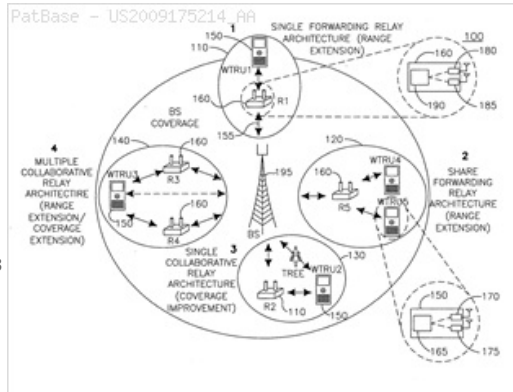
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International (ipc 1-7): H04L12/28

CPC: H04B7/15557 H04L1/1657 H04L1/1887 H04L1/1896 H04L5/0023 H04L5/0035 H04L5/0053 H04L2001/0097 H04W72/1289 H04J11/0053 H04W16/26 H04W84/047 H04B7/15592 H04B7/2606 H04B7/026 H04B7/086 H04B7/022 H04B7/0617 H04B7/0626 H04W72/14 H04L5/0007 H04L67/303 H04W28/0278 H04B7/0632 H04W4/38

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US: 1/1 370/315 370/315P 370/329



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Priority:

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PRABHAKAR R CHITRAPU ; MOHAMMED SAMUEL ; LIN ZI NAN ; KHUSHALI N MANSETA ; GREGG A CHARLTON ; BELURI MIHAELA ; BELURI M C ; SHAH YOGENDRA ; PINHEIRO ANA LUCIA A ; CHITRAPU PRABHAKAR ; SHAH YOGENDRA C ; YE CHUNXUAN ; ZHANG GUODONG ; ZINAN LIN

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Designated states:

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Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** CONTROL INFORMATION IN **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2012099545A [EN] A **wireless communication system** is disclosed. Disclosed herein are **methods** for **transmitting** a physical **uplink** control channel (PUCCH) signal in a **wireless communication system**, which includes setting **transmit** power for the PUCCH signal, and an **apparatus** thereof. If the PUCCH signal is **transmitted** on a subframe configured for a scheduling **request** (SR), the PUCCH signal includes one or more **hybrid** automatic **repeat request** acknowledgement (**HARQ**-ACK) bits and an SR bit. When determining the **transmit** power for the PUCCH, the SR bit is selectively considered depending on whether or not a transport **block** for an **uplink** shared channel (**UL**-SCH) is present in the subframe.

Classifications:

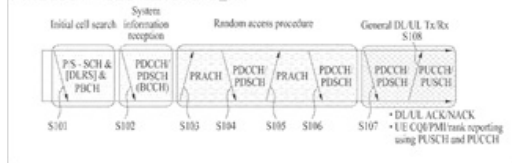
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US: 1/1 370/280 370/329 370/329P 370/330

PatBase - US2012099545_AA



Family:

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Priority:

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** AND RECEIVING **FEEDBACK** ON CHANNEL STATE INFORMATION

Abstract: Source: US2013121299A [EN] Provided is a **method** for operating a terminal for **feedback** on channel state information (CSI) in a carrier aggregation **system** according to the present disclosure. The **method** may comprise the steps of: receiving CSI **feedback** configuration information for each of a plurality of **downlink** component carriers from a base station; and feeding channel status information back to the base station through a physical **uplink** control channel (PUCCH) of an **uplink** primary component carrier on the basis of the configuration information of the received CSI **feedback**. The configuration information of the CSI **feedback** may be received through any one or each of the plurality of **downlink** component carriers.

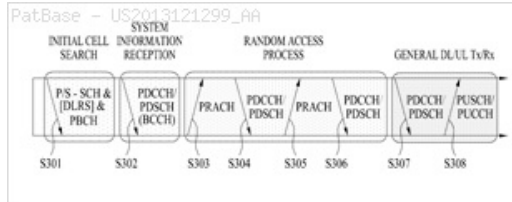
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CPC: H04B7/0626 H04B7/0639 H04L1/0027 H04L5/006 H04L5/0053 H04W88/02 H04W72/0413 H04L5/0064 H04L1/0026 H04L1/0029 H04L1/0031 H04L1/1671 H04L1/1812 H04L5/001 H04L5/0055 H04L5/0057 H04L27/2633 H04L27/2636 H04W24/02 H04W24/10 H04W28/06 H04L5/0032 H04L5/0041 H04B7/0632 H04W72/10

European: H04L5/00A2A11 H04L5/00C6B H04L5/00C7A H04W28/04 T04W24/02 T04W24/10 T04W28/06

US: 1/1 370/329



Family:

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CN103026647 A	20130403	CN201180035750	20110719
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US8891477 BB	20141118	US20110811553	20110506
US9237580 BB	20160112	US20110809568	20110719
US9276725 BB	20160301	US20140521207	20141022
US9853792 BB	20171226	US20160015974	20160204
US9893792 BB	20180213	US20150956588	20151202
WO12011657 A2	20120126	WO2011KR03408	20110506
WO12011657 A3	20120315	WO2011KR03408	20110506
WO12011718 A2	20120126	WO2011KR05296	20110719
WO12011718 A3	20120405	WO2011KR05296	20110719

Priority:

US20100365358P 20100719	US20100366164P 20100721	US20110811553 20110506
WO2011KR03408 20110506	CN201180035750 20110719	KR20110071457 20110719
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US20130811553 20130122	US20140521207 20141022	US20150956588 20151202
US20160015974 20160204		

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHUNG JAEHOON ; HAN SEUNGHEE ; KIM SOYEON ; LEE MOONIL ; LG ELECTRONICS INC ; LEE HYUNWOO ; KO HYUNSOO

Inventor(s): (std): CHUNG JAE HOON ; CHUNG JAEHOON ; HAN SEUNG HEE ; HAN SEUNGHEE ; JUNG JAE HOON ; KIM SO YEON ; KIM SOYEON ; KO HYUN SOO ; KO HYUNSOO ; LEE HYUN WOO ; LEE HYUNWOO ; LEE MOON IL ; LEE MOONIL

Agent(s): GUNZELMANN RAINER; URNER PETER; BIRCH STEWART KOLASCH AND BIRCH LLP; DENTONS US LLP; PARK JANG WON; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **DEVICES** FOR ENABLING HALF-**DUPLEX COMMUNICATION**

Abstract: Source: US2013250772A [EN] A **wireless communication device** for enabling half-**duplex communication** is described. The **wireless communication device** includes a **processor** and instructions stored in **memory** that is in electronic **communication** with the **processor**. The **wireless communication device** receives an indicator. The **wireless communication device** also determines a half-**duplex** frame structure with a regular **uplink (UL)** and **downlink (DL)** switching pattern based on the indicator. The half-**duplex** frame structure includes at least one **UL** subframe group including one or multiple consecutive **UL** subframes and at least one **DL** subframe group including one or multiple consecutive **DL** subframes. The **wireless communication device** further receives **DL** information in at least one of the **DL** subframes. The **wireless communication device** additionally sends **UL** information in at least one of the **UL** subframes.

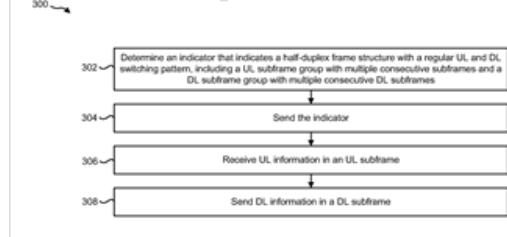
Classifications:

International (IPC 8-9): H01R31/08 H04J3/00 H04L1/18 H04L5/16
H04W24/00 H04W72/04 (Advanced/Invention);
H04W4/00 (Advanced/Non-invention)

CPC: H04L1/1822 H04L5/16 H04W4/70

US: 1/1 370/241 370/277 370/280

PatBase - US2013250772_AA



Family:

Publication number	Publication date	Application number	Application date
CN104205975 A	20141210	CN201380015283	20130220
DE602013029138 D1	20171221	DE201360029138T	20130220
EP2829138 A1	20150128	EP20130764922	20130220
EP2829138 A4	20151021	EP20130764922	20130220
EP2829138 B1	20171108	EP20130764922	20130220
JP2015514333 T2	20150518	JP20140537209T	20130220
US2013250772 AA	20130926	US20120427755	20120322
US9215039 BB	20151215	US20120427755	20120322
WO13140716 A1	20130926	WO2013JP00960	20130220

Priority:

US20120427755 20120322 EP20130764922 20130220 WO2013JP00960 20130220

Probable Assignee: SHARP KK

Assignee(s): (std): SHARP CORP ; SHARP KK ; YIN ZHANPING ; SHARP LAB OF AMERICA INC

Assignee(s): SHARP LABORATORIES OF AMERICA INC ; SHARP KABUSHIK KAISHA

Inventor(s): (std): YIN ZHANPING

Inventor(s): YIN ZHANPING CAMAS

Agent(s): MUELLER BORE AND PARTNER PATENTANWALTE PARTG MBB; MUELLER BORE AND PARTNER
PATENTANWALTE PARTG MBB; HARAKENZO WORLD PATENT AND TRADEMARK; AUSTIN RAPP AND
HARDMAN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID
IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR
MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK
SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ENHANCED **MULTIPLEXING SYSTEM** AND TECHNIQUE FOR **UPLINK** CONTROL CHANNELS

Abstract: Source: US2009201869A [EN] A **communication system** incorporates a **multiplexing** scheme so that a base node that schedules **user** equipment (UE) can determine whether an ACK/NACK and/or a service **request** (SR) has been received when both **uplink (UL)** transmissions are simultaneously scheduled. Significant complexity reduction, better link efficiency, and higher **multiplexing** capability since the base node can interpret selective use by the UE of either the ACK/NACK or SR **UL** channel. Such interpretation can be extended to when multiple **downlink (DL)** transmission modes can be used, specifically **DL** single input multiple output (SIMO), **DL** multiple input multiple output (MIMO) with rank 1 transmission, and **DL** MIMO with rank 2 transmission. Based upon knowledge of the scheduling and **DL** transmission mode, the base node does not have to blind decode a number of possibilities due to the mapping of possible responses from the UE. In addition, the **multiplexing** scheme is applicable to FDD and **TDD**.

Classifications:

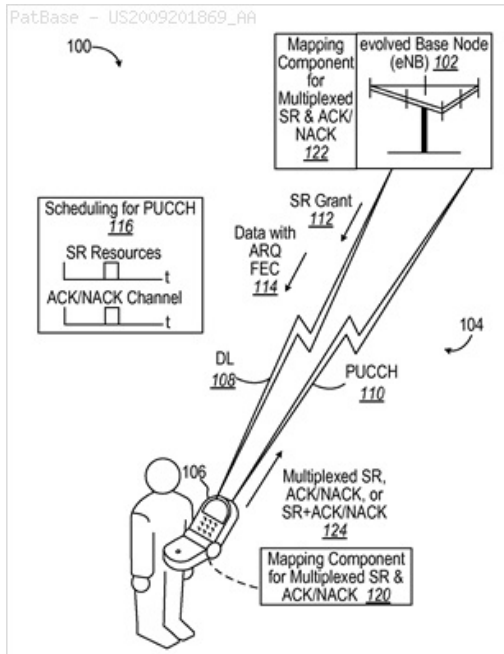
International (IPC 8-9): H04B7/04 H04J11/00 H04J13/18 H04J99/00 H04L1/16 H04L1/18 H04L5/00 H04Q7/38 H04W4/00 H04W72/00 H04W72/12 (Advanced/Invention); H04B7/04 H04L1/18 H04L27/28 H04W72/12 (Advanced/Non-invention); H04L5/00 H04W72/00 (Core/Invention); H04L27/26 H04L5/00 H04Q7/38 (Core/Non-invention); H04L (Subclass/Invention)

International (IPC 1-7): H04L5/00

CPC: H04L1/1671 H04L5/0023 H04L5/0053 H04L5/0064 H04L5/0092 H04W72/1268 H04B7/0413 H04B7/0623 H04L5/0055

European: H04L1/16F15 H04L5/00C6 H04L5/00E1 T04L5/00A3C T04L5/00C7C T04W72/12D2

US: 370/329 370/329P 375/260 375/260S 455/434



Family:

Publication number	Publication date	Application number	Application date
AU2009212368 AA	20090813	AU20090212368	20090205
CA2712913 AA	20090813	CA20092712913	20090205
CA2712913 C	20131126	CA20092712913	20090205
CN101939942 A	20110105	CN200980104398	20090205
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CN103532691 A	20140122	CN201310459435	20090205
CN103532691 B	20170517	CN201310459435	20090205
EP2243244 A2	20101027	EP20090707609	20090205
EP2243244 B1	20171220	EP20090707609	20090205
ES2660158 T3	20180321	ES20090707609T	20090205
IL207105 A0	20101230	IL20090207105	20090205
IN04636CN2010 A	20101119	IN2010CN04636	20100723
IN290956 B	20171229	IN2010CN04636	20100723
JP2011511603 T2	20110407	JP20100545993T	20090205
JP5372964 B2	20131218	JP20100545993T	20090205
KR101177632 B1	20120827	KR20107020061	20090205
KR20100126729 A	20101202	KR20107020061	20090205
KR20120084821 A	20120730	KR20127018571	20090205
MX2010008679 A1	20100831	MX20100008679	20090205
RU2010137350 A	20120320	RU20100137350	20090205
RU2486680 C2	20130627	RU20100137350	20090205
TW200943879 A	20091016	TW20090103965	20090206
TW201328275 A	20130701	TW20130106072	20090206
TWI430638 B	20140311	TW20090103965	20090206
TWI500306 B	20150911	TW20130106072	20090206
US2009201869 AA	20090813	US20090365845	20090204
US8855630 BB	20141007	US20090365845	20090204
WO09100217 A2	20090813	WO2009US33218	20090205
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Priority:

US20080027242P 20080208 US20090365845 20090204 US20090364845 20090204
 CN200980104398 20090205 EP20090707609 20090205 WO2009US33218 20090205

Probable Assignee: QUALCOMM INC

Assignee(s): (std): MALLADI DURGA PRASAD ; MONTOJO JUAN ; QUALCOMM INC ; XU HAO ; GAAL PETER

Assignee(s): KVEHLKOMM INKORPOREJED

Inventor(s): (std): HAO XU ; JUAN MONTOJO ; MALLADI DURGA PRASAD ; GAAL PETER ; MONTOJO JUAN ; PETER GAAL ; PRASAD MALLADI DURGA ; XU HAO ; SJUJ KHAO ; MONTOKHO KHUAN ; MALLADI DURGA ; GAAL PITER

Inventor(s): XU, Hao ; MONTOJO, Juan ; GAAL, Peter ; DURGA PRASAD MALLADI

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; SMART AND BIGGAR; HESELBERGER JOHANNES;
FORTEA JUAN JOSE; QUALCOMM INC; PAUL; PATEL MILAN I

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU
CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL
IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT
MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV
SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: PRECODING CODEBOOK BITMAPS IN TELECOMMUNICATIONS

Abstract: Source: US2015207552A [EN] A base station node (28) communicates over a radio interface (32) with a wireless terminal (30). The base station node (28) comprises a controller (60) which, upon basis of channel feedback received from the wireless terminal, is configured to make a precoding codebook bitmap decision (3-3) regarding a precoding codebook bitmap affecting transmissions between the base station (28) and the wireless terminal (30). The base station (28) is further configured to communicate the precoding codebook bitmap decision so that the precoding codebook bitmap decision may be implemented by the wireless terminal (30). In example embodiments and modes the base station (28) sends the precoding codebook bitmap decision using a bitmap decision signal to a radio network controller (26).

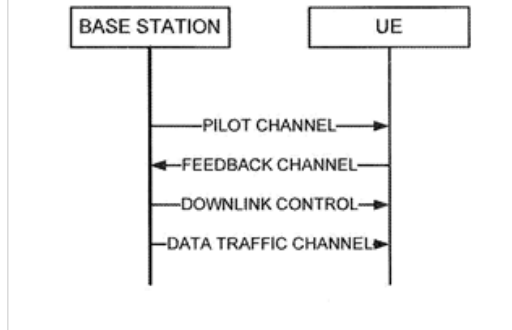
Classifications:

International (IPC 8-9): H04B H04B7/02 H04B7/04 H04B7/0413 H04B7/0456 H04B7/06 H04L H04L1/12 H04L1/18 H04W72/00 H04W72/04 (Advanced/Invention); H04B7/06 (Advanced/Non-invention)

CPC: H04W72/042 H04W72/0453 H04B7/0634 H04W72/0406 H04B7/0478 H04B7/0456 H04B7/0413 H04B7/0486 H04B7/0619 H04B7/0645 H04B7/0658 H04B7/0697

US: 370/281 370/329

PatBase - US2015207552_AA

**Family:**

Publication number	Publication date	Application number	Application date
AU2013303261 AA	20140220	AU20130303261	20130813
AU2013303263 AA	20140220	AU20130303263	20130813
AU2013303263 BB	20160707	AU20130303263	20130813
AU2016208281 AA	20160811	AU20160208281	20160726
CN104584663 A	20150429	CN201380043112	20130813
DE602013014920 D1	20170112	DE201360014920T	20130813
DE602013027520 D1	20171116	DE201360027520T	20130813
EP2885891 A2	20150624	EP20130879598	20130813
EP2885891 A4	20150930	EP20130879598	20130813
EP2885891 B1	20161130	EP20130879598	20130813
EP2885951 A2	20150624	EP20130756738	20130813
EP2885951 B1	20171004	EP20130756738	20130813
IN00612KN2015 A	20151218	IN2015KN00612	20150309
IN00641KN2015 A	20151218	IN2015KN00641	20150311
US2015207552 AA	20150723	US20130421365	20130813
US2015207556 AA	20150723	US20130420913	20130813
US2018076865 AA	20180315	US20170812101	20171114
US9602181 BB	20170321	US20130420913	20130813
US9843371 BB	20171212	US20130421365	20130813
WO14027947 A2	20140220	WO2013SE50966	20130813
WO14027947 A3	20140424	WO2013SE50966	20130813
WO14027949 A2	20140220	WO2013SE50969	20130813
WO14027949 A3	20140410	WO2013SE50969	20130813
ZA201500998 A	20161026	ZA20150000998	20130813

Priority:

US20120683665P 20120815	US20120796023P 20121101	AU20130303261 20130813
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WO2013SE50969 20130813	US20130421365 20130813	US20130420913 20130813
US20150421365 20150212	AU20160208281 20160726	US20170812101 20171114

Probable Assignee: TELEFONAKTIEBOLAGET L M ERICSSON PUBL**Assignee(s):** (std): ERICSSON TELEFON AB L M ; ERICSSON TELEFON AB L M PUBL ; TELEFONAKTIEBOLAGET L M ERICSSON PUBL ; TELEFONAKTIEBOLAGET LM ERICSSON PUBL**Assignee(s):** TELEFONAKTIEBOLAGET LM ERICSSON**Inventor(s):** (std): BO GOERANSSON ; GOERANSSON BO ; GORANSSON BO ; LIDIAN NAMIR ; NAMMI SAIRAMESH ; SAIRAMESH NAMMI ; SHI NIANSHAN**Agent(s):** WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; ERICSSON; BRANN AB; PATENT PORTFOLIO BUILDERS PLLC; MURPHY BILAK AND HOMILLER PLLC; AYOUB NABIL**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SPECIAL SUBFRAME CONFIGURATION IN **WIRELESS NETWORKS**

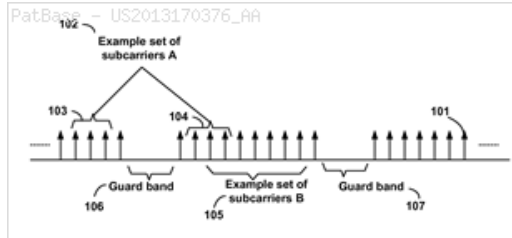
Abstract: Source: US2013170376A [EN] A base station configures a first set of subframes on a first carrier as special subframes. The base station **transmits** at least one unicast control message to a **wireless device**. The at least one unicast control message configures a second carrier. The base station configures the second carrier to enter a special subframe for every subframe in which the first carrier enters a special subframe, and the second carrier is activated.

Classifications:

International (IPC 8-9): H04L1/00 H04L1/06 H04L27/26 H04L5/00 H04W28/18 H04W4/00 H04W72/04 H04W72/12 (Advanced/Invention); H04L27/26 H04W28/18 H04W72/04 H04W84/04 (Advanced/Non-invention)

CPC: H04W28/18 H04L1/0003 H04L1/0009 H04L1/0026 H04L1/0064 H04L1/06 H04L5/0046 H04L5/0053 H04W72/1226 H04W72/1289 H04W84/045 H04L1/00 H04W72/12 H04W72/042 H04W72/1231 H04W72/0446 H04W72/0453 H04L1/0057 H04L27/2601

US: 370/252 370/254 370/328 370/329

**Family:**

Publication number	Publication date	Application number	Application date
US2013170376 AA	20130704	US20120732147	20121231
US2013170396 AA	20130704	US20120732161	20121231
US2015110054 AA	20150423	US20140580350	20141223
US2015131601 AA	20150514	US20150605131	20150126
US2017099665 AA	20170406	US20160383473	20161219
US8934436 BB	20150113	US20120732147	20121231
US8971275 BB	20150303	US20120732161	20121231
US9526104 BB	20161220	US20150605131	20150126
US9565674 BB	20170207	US20140580350	20141223

Priority:

US20110582309P 20111231	US20110582310P 20111231	US20120732147 20121231
US20120732161 20121231	US20140580350 20141223	US20150605131 20150126
US20160383473 20161219		

Probable Assignee: COMCAST CABLE COMMUNICATIONS LLC

Assignee(s): (std): DINAN ESMAEL HEJAZI ; OFINNO TECH LLC ; OFINNO TECHNOLOGIES L L C ; OFINNO TECHNOLOGIES LLC

Assignee(s): COMCAST CABLE COMMUNICATIONS LLC

Inventor(s): (std): DINAN ESMAEL HEJAZI

Agent(s): ESMAEL; DAVID

Title: INFORMATION EXCHANGE BETWEEN BASE STATIONS

Abstract: Source: US2013250882A [EN] A first base station receives at least one application protocol message from a second base station. The second base station comprises a **downlink** carrier comprising a plurality of **downlink** resource **blocks**. The at least one application protocol message may comprise a second physical **downlink** control channel configuration. The first base station may **transmit** a packet comprising acknowledgement for the receipt of the at least one application protocol.

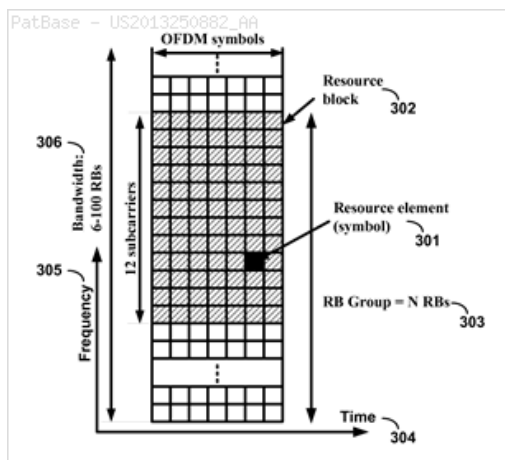
Classifications:

International (IPC 8-9): H04L5/00 H04W4/00 H04W72/04
H04W74/04 (Advanced/Invention);

H04L5/00 H04W72/00 H04W92/20 (Advanced/Non-invention)

CPC: H04W72/0466 H04L5/0023 H04L5/0032 H04L5/0092
H04W92/20 H04W72/042 H04W72/0426 H04L5/001 H04L5/0044
H04L5/0048 H04L5/0053

US: 370/329

**Family:**

Publication number	Publication date	Application number	Application date
US2013250882 AA	20130926	US20130850228	20130325
US2013294369 AA	20131107	US20130887408	20130506
US2016374058 AA	20161222	US20160184532	20160616
US2018077692 AA	20180315	US20170818252	20171120
US9497756 BB	20161115	US20130850228	20130325
US9826519 BB	20171121	US20160184532	20160616
US9949265 BB	20180417	US20130887408	20130506

Priority:

US20120615347P 20120325 US20120642472P 20120504 US20130850228 20130325
US20130887408 20130506 US20160184532 20160616 US20170818252 20171120

Probable Assignee: COMCAST CABLE COMMUNICATIONS LLC

Assignee(s): (std): COMCAST CABLE COMM LLC ; DINAN ESMAEL HEJAZI

Assignee(s): OFINNO TECHNOLOGIES LLC ; COMCAST CABLE COMMUNICATIONS LLC

Inventor(s): (std): DINAN ESMAEL HEJAZI

Agent(s): BANNER AND WITCOFF LTD

Title: **METHODS** AND **APPARATUS** FOR UPDATING THE UE CAPABILITY IN AN E-UTRAN

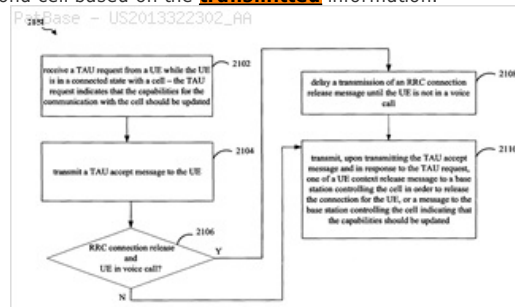
Abstract: Source: US2013322302A [EN] A **method**, an **apparatus**, and a **computer** program product for **wireless communication** are provided. The **apparatus transmits** a first set of capabilities to a first cell. The first set of capabilities is for **communication** with the first cell. The **apparatus transmits** information associated with a second set of capabilities to the first cell. The second set of capabilities is for **communication** with a second cell. The **apparatus** moves from the first cell to the second cell. The **apparatus communicates** with the second cell based on the **transmitted** information.

Classifications:

International (IPC 8-9): H04W H04W36/00 H04W36/08 H04W36/14 H04W36/24 H04W36/34 H04W76/06 H04W8/24 (Advanced/Invention); H04W (Subclass/Invention)

CPC: H04W36/24 H04W36/08 H04W36/34 H04W36/0055 H04W76/30

US: 370/280 370/328 370/331



Family:

Publication number	Publication date	Application number	Application date
AU2011380412 AA	20130510	AU20110380412	20111104
BR112014010365 A2	20170425	BR20141110365	20111104
CA2853716 AA	20140428	CA20112853716	20111104
CN104025652 A	20140903	CN201180076165	20111104
EP2774413 A1	20140910	EP20110875182	20111104
IL232260 A0	20140630	IL20140232260	20140427
IN00891MN2014 A	20150417	IN2014MN00891	20140513
JP2014534745 T2	20141218	JP20140539206T	20111104
KR20140090656 A	20140717	KR20147015116	20111104
MX2014005357 A1	20140709	MX20140005357	20111104
RU2014122557 A	20151210	RU20140122557	20111104
US2013322302 AA	20131205	US20110823706	20111104
US9877254 BB	20180123	US20110823706	20111104
WO13063793 A1	20130510	WO2011CN081791	20111104
ZA201404054 A	20160525	ZA20140004054	20140603

Priority:

WO2011CN081791 20111104

Probable Assignee: QUALCOMM INC

Assignee(s): (std): CASACCIA LORENZO ; GHOLMIEH AZIZ ; KITAZOE MASATO ; QUALCOMM INC ; SONG OSOK ; ZHU XIPENG

Inventor(s): (std): AZIZ GHOLMIEH ; CASACCIA LORENZO ; GHOLMIEH AZIZ ; KITAZOE MASATO ; LORENZO CASACCIA ; MASATO KITAZOE ; OSOK SONG ; SONG O SOK ; SONG OSOK ; XIPENG ZHU ; ZHU XIPENG

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; SMART AND BIGGAR; WEGNER HANS; NTD PATENT AND TRADEMARK AGENCY LIMITED

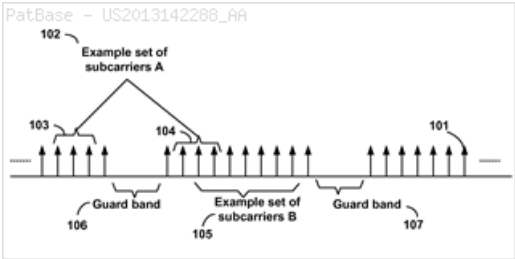
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CONTROL CHANNEL DETECTION

Abstract: Source: US2013142288A [EN] A **wireless device** at least demodulates, descrambles and decodes a first control signal to generate a first signal. The **wireless device** processes the first signal by at least encoding, scrambling, modulating and scaling the first signal. The **wireless device** subtracts the processed first signal from received signals to generate a second signal. The **wireless device** at least demodulates, descrambles and decodes the second signal to generate a second control message.

Classifications:

International (IPC 8-9): H04J11/00 H04J13/00 H04L27/26 H04L5/00 H04W4/06 H04W72/04 (Advanced/Invention)
CPC: H04J11/0069 H04J11/0073 H04J11/0076 H04L5/0032 H04L5/0053 H04L27/2656 H04L27/2666 H04L27/2675 H04L27/2601 H04L27/2649 H04W72/042 H04W4/06 H04L5/0007 H04J13/0062 H04W72/0406 H04W72/0446
US: 1/1 370/328 370/329 375/340



Family:

Publication number	Publication date	Application number	Application date
US2013142288 AA	20130606	US20120684419	20121123
US2015043511 AA	20150212	US20140523981	20141027
US2016165581 AA	20160609	US20160011968	20160201
US2017135082 AA	20170511	US20170414090	20170124
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US9253763 BB	20160202	US20140523981	20141027
US9591637 BB	20170307	US20160011968	20160201
US9877318 BB	20180123	US20170414090	20170124

Priority:

US20110567094P 20111205 US20120684419 20121123 US20140523981 20141027
US20160011968 20160201 US20170414090 20170124

Probable Assignee: COMCAST CABLE COMMUNICATIONS LLC

Assignee(s): (std): COMCAST CABLE COMM LLC ; DINAN ESMAEL HEJAZI ; OFINNO TECHNOLOGIES LLC

Assignee(s): COMCAST CABLE COMMUNICATIONS LLC

Inventor(s): (std): DINAN ESMAEL HEJAZI

Agent(s): ESMAEL; DAVID; BANNER AND WITCOFF LTD

Title: **METHODS, SYSTEMS AND APPARATUSES** FOR OPERATION IN LONG-TERM EVOLUTION **SYSTEMS**

Abstract: Source: US2014086173A [EN] **Methods, systems** and **apparatuses** for operation in long-term evolution (LTE) **systems** are provided, including a **method** implemented by a **wireless transmit/receive unit (WTRU)** served by a cell, where an enhanced physical broadcast channel (ePBCH) may be sent by the cell and may including basic information for WTRU control. The **method** may include receiving, by the WTRU, the ePBCH, and demodulating the ePBCH based on a demodulation reference signal (DMRS). In some embodiments, demodulating the ePBCH may be based on any of: a primary synchronization signal (PSS), a secondary synchronization signal; and a cell-specific reference signal (CRS), as well. Also provided is a **method** implemented by a WTRU in a vicinity of a dormant cell. The **method** may include any of: receiving, from a dormant cell, a signal; receiving, from a serving cell, a trigger to initiate measurement of one or more dormant cells; and measuring the signal.

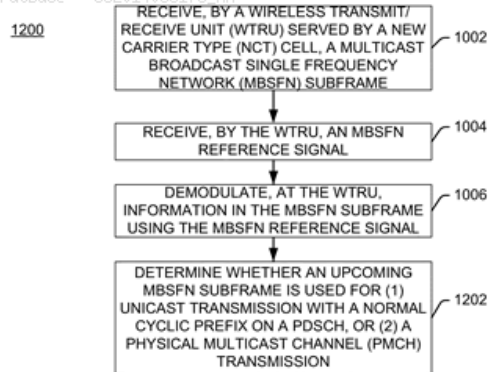
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CPC: H04L5/001 H04L5/0023 H04L5/005 H04L5/0092 H04L27/2649 H04W72/005 H04W68/02 H04W72/042 H04W72/048 H04L5/14 H04L5/003 H04L27/2636 H04B7/0617 H04L27/2613 H04L27/2692 H04B7/0408

US: 370/328 370/329

PatBase - US2014086173_06



Family:

Publication number	Publication date	Application number	Application date
EP2901640 A2	20150805	EP20130776623	20130925
JP2015536097 T2	20151217	JP20150534620T	20130925
TW201429202 A	20140716	TW20130134525	20130925
TW201731251 A	20170901	TW20160140026	20161202
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US2014086173 AA	20140327	US20130036327	20130925
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Priority:

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US20130863090P 20130807	US20130036327 20130925	WO2013US61617 20130925
US20150263592P 20151204	US20160393607 20161229	

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

Assignee(s): (std): IDAC HOLDINGS INC ; INTERDIGITAL PATENT HOLDINGS ; INTERDIGITAL PATENT HOLDINGS INC

Inventor(s): (std): BALA ERDEM ; BELURI MIHAELA C ; DEMIR ALPASLAN ; LEE MOON IL ; NAYEB NAZAR SHAHROKH ; PELLETIER GHYSLAIN ; PRAGADA RAVIKUMAR V ; SADEGHI POURIYA ; STERN BERKOWITZ JANET ; STERN BERKOWITZ JANET A ; SUN LI HSIANG ; TAMAKI NOBUYUKI ; TOOHER J PATRICK

Agent(s): KARLSSON MONA; TANI AND ABE PC; JULIAN F; SANTOS JULIAN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: APPARATUS FOR TRANSMITTING CONTROL INFORMATION IN A WIRELESS COMMUNICATION SYSTEM AND METHOD THEREOF

Abstract: Source: US2013163553A [EN] In a wireless communication system, a method of transmitting control information, which is transmitted to a base station by a user equipment, includes the steps of receiving at least one of PDCCH and PDSCH from the base station via at least one serving cell configured in the user equipment and transmitting a 2nd control information to the base station together with a 1st control information resulting from performing a bundling on at least one portion of the control information on a reception of the PDCCH or a reception of the PDSCH indicated by the PDCCH, wherein the 1st control information and the 2nd control information are transmitted using PUCCH (Physical Uplink Control Channel) resource selected in accordance with a preset rule and a modulation value and wherein the 1st control information and the 2nd control information are identified by a combination of the selected PUCCH resource and the modulation value.

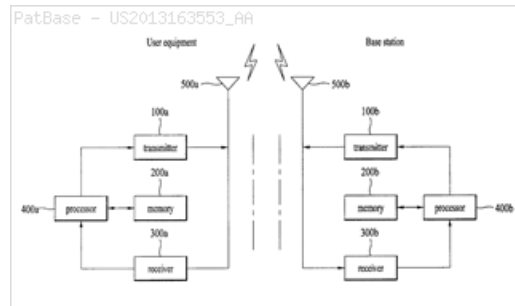
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International (IPC 8-9): H04B7/26 H04J3/22 H04L1/00 H04L1/16 H04L1/18 H04L27/26 H04L5/00 H04W72/04 (Advanced/Invention); H04L5/00 (Advanced/Non-invention)

CPC: H04W72/042 H04W72/0406 H04L1/1671 H04L1/0027 H04L1/0029 H04L5/0007 H04L5/0091 H04L5/001 H04L5/0012 H04L5/0016 H04L5/0023 H04L5/0048 H04L5/0053 H04L5/0055 H04L5/0057

European: H04L1/00A9C H04L1/00A9F1 H04L1/16F15 H04L5/00A2A11 H04L5/00C6 H04L5/00C6A H04L5/00E T04L5/00A2A1 T04W72/04F4

US: 1/1 370/311 370/329



Family:

Publication number	Publication date	Application number	Application date
KR101832771 B1	20180227	KR20137004213	20110915
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KR20130143000 A	20131230	KR20137004214	20110915
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US2013182627 AA	20130718	US20110822800	20110915
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US20100389726P 20101005	US20100390190P 20101006	WO2011KR06806 20110915
US20110820452 20110915	WO2011KR06804 20110915	US20110822800 20110915

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHUNG JAEHOON ; HAN SEUNGHEE ; LEE HYUNWOO ; LG ELECTRONICS INC

Inventor(s): (std): CHUNG JAE HOON ; CHUNG JAEHOON ; HAN SEUNG HEE ; HAN SEUNGHEE ; LEE HYUN WOO ; LEE HYUNWOO

Agent(s): LEE HONG DEGERMAN KANG AND WAIMEY; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **DEVICE** FOR **TRANSMITTING UPLINK** CONTROL SIGNAL IN **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2015131564A [EN] A **method** for **transmitting** an **uplink** control signal of a terminal in a **wireless communication system** and a terminal using the **method** are provided. The **method** comprises the steps of: setting a first physical **uplink** control channel (PUCCH) resource for a first antenna port; setting a second PUCCH resource for a second antenna port; and **transmitting** a same **uplink** control signal through the first and second antenna ports by using the first and second PUCCH resources, wherein the first and second PUCCH resources are orthogonal to each other.

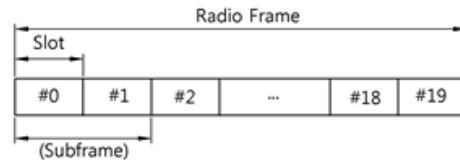
Classifications:

International (IPC 8-9): E05B47/06 H04B7/04 H04B7/0404 H04B7/26 H04J11/00 H04L1/00 H04L1/18 H04L27/26 H04L5/00 H04L5/14 H04W28/04 H04W4/00 H04W72/04 H04W72/08 H04W72/10 H04W72/12 H04W72/14 (Advanced/Invention); H04L5/00 H04L5/14 (Advanced/Non-invention)

CPC: E05B43/005 E05B47/0004 E05B47/063 E05B2047/0073 E05B2047/0089 E05B17/048 Y10T70/7102 Y10T70/7593 Y10T70/7621 Y10T70/7915 Y10T70/7932 H04W72/042 H04L1/1854 H04W72/0446 H04B7/2612 H04B7/2603 H04L1/1812 H04B7/04 H04B7/0404 H04B7/0421 H04L1/18 H04L1/1861 H04L5/00 H04L5/001 H04L5/0016 H04L5/0023 H04L5/0053 H04L5/0055 H04L5/0073 H04L5/1469 H04W72/04 H04L1/0031 H04L27/2633 H04L27/2636 H04L5/0057 H04L5/0066 H04L5/0098 H04W72/085 H04W72/10 H04W72/1284 H04W72/14 H04L1/1671 H04L5/0048 H04W72/1242 H04W72/0413

US: 1/1 370/329 70/278.7 70/416 70/419 70/491 70/496

PatBase - US2015131564_AA



Family:

Publication number	Publication date	Application number	Application date
CN104412684 A	20150311	CN201380035889	20130703
EP2871896 A1	20150513	EP20130812633	20130703
EP2871896 A4	20160224	EP20130812633	20130703
JP2015527781 T2	20150917	JP20150518346T	20130703
JP5945073 B2	20160705	JP20150518346T	20130703
KR101612667 B1	20160414	KR20147034581	20130703
KR20150023363 A	20150305	KR20147034581	20130703
US2015131564 AA	20150514	US20130405142	20130610
US2015156763 AA	20150604	US20130406722	20130703
US2016248571 AA	20160825	US20160145726	20160503
US2017237523 AA	20170817	US20170584849	20170502
US2017302424 AA	20171019	US20170639017	20170630
US8720238 BA	20140513	US20120728417	20121227
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US9722756 BB	20170801	US20160145726	20160503
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WO14007548 A1	20140109	WO2013KR05921	20130703

Priority:

US20120657036P	20120608	US20120667941P	20120703	US20120678621P	20120801
US20120681621P	20120810	US20120692218P	20120822	US20120719943P	20121029
US20120721508P	20121102	US20120728417	20121227	US20130761252P	20130206
US20130405142	20130610	WO2013KR05092	20130610	US20130406722	20130703
WO2013KR05921	20130703	US20140405142	20141202	US20140406722	20141209
US20160145726	20160503	US20170584849	20170502	US20170639017	20170630

Probable Assignee: VIDEX INC

Assignee(s): (std): LG ELECTRONICS INC ; VIDEX INC

Inventor(s): (std): AHN JOON KUI ; AHN JOONKUI ; CHAE HYUK JIN ; CHAE HYUKJIN ; DAVIS PAUL R ; SEO DONG YOUN ; SEO DONGYOUN ; SEO HAN BYUL ; SEO HANBYUL ; YANG SUCK CHEL ; YANG SUCKCHEL

Agent(s): CABINET PLASSERAUD ; AOKI ATSUSHI ; TSURUTA JUNICHI ; CHERNOFF VILHAUER MCCLUNG AND STENZEL LLP ; LEE HONG DEGERMAN KANG AND WAIMEY ; JONATHAN ; HARRY ; S AND IP PATENT AND LAW FIRM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: RADIO-LINK RELIABILITY USING MULTI-CARRIER CAPABILITY IN **WIRELESS** BROADBAND **SYSTEMS**

Abstract: Source: US2011110227A [EN] Embodiments of a **system** and **methods** for improving radio link reliability using multi-carrier capability in **wireless systems** are generally described herein. Other embodiments may be described and claimed.

Classifications:

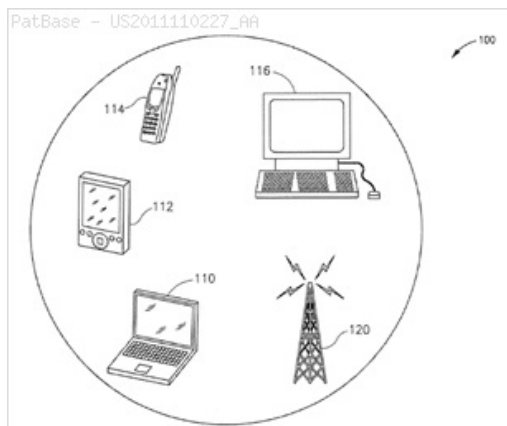
International (IPC 8-9): G01S5/00 G01S5/02 G06F11/00 H04B17/00 H04B17/02 H04B17/40 H04B7/00 H04B7/14 H04B7/208 H04B7/216 H04B7/26 H04L1/00 H04L1/02 H04L1/18 H04L1/22 H04L12/02 H04L12/26 H04L12/891 H04L27/26 H04L29/04 H04L5/00 H04L9/08 H04L9/32 H04Q7/00 H04W12/06 H04W16/26 H04W16/32 H04W24/00 H04W24/04 H04W28/02 H04W28/06 H04W28/08 H04W28/16 H04W36/00 H04W36/06 H04W36/08 H04W36/16 H04W36/30 H04W4/00 H04W4/02 H04W4/06 H04W40/04 H04W48/08 H04W48/10 H04W48/16 H04W48/18 H04W48/20 H04W60/00 H04W60/04 H04W64/00 H04W72/00 H04W72/02 H04W72/04 H04W72/12 H04W74/00 H04W76/00 H04W76/02 H04W80/00 H04W84/02 H04W84/04 H04W84/10 H04W84/12 H04W88/04 H04W88/06 H04W88/08 H04W88/10 H04W88/12 H04W92/12 (Advanced/Invention); H04W28/06 H04W36/00 H04W36/14 H04W48/20 H04W72/04 H04W74/00 H04W76/02 H04W80/00 H04W84/04 (Advanced/Non-invention)

CPC: G01S5/0009 G01S5/0054 H04W28/06 H04W36/0061

H04W88/08 H04W36/0083 G01S5/10 G01S5/0215 G01S5/14 H04W64/00 H04B7/15528 H04W8/26 H04W12/04 H04W28/18 H04W60/00 H04W92/045 H04W48/08 H04L5/006 H04W72/02 H04W72/085 H04W72/04 H04W60/04 H04W36/14 H04W36/0072 H04W74/004 H04W36/08 H04W48/20 H04W84/045 H04L47/41 H04W72/1215 H04W88/10 H04L9/0838 H04L9/3273 H04L2209/80 H04W12/06 H04W36/0066 H04W48/10 H04W36/0038 H04W16/26 H04W88/04 H04B7/2606 H04W72/042 H04W88/06 H04B17/40 H04W80/00 H04W28/065 H04W76/19 H04W76/10 H04W76/025 H04W76/15

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US: 1/1 370/208 370/216 370/228 370/228P 370/230 370/230P 370/242 370/315 370/315P 370/328 370/328S 370/329 370/329P 370/329S 370/330 370/331 370/331P 370/335 370/335P 370/338 370/338P 370/338S 370/344 370/344S 370/349 455/168.1 455/422.1 455/434 455/434P 455/435.1 455/435.2 455/435.200P 455/435.3 455/436 455/437 455/438 455/444 455/448 455/449 455/450 455/456.1 455/466 455/466S 455/509 455/509S 455/553.1 455/63.1 455/67.1



Family:

Publication number	Publication date	Application number	Application date
BRPI1004167 A2	20130219	BR2010PI04167	20101108
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CN102056292 A	20110511	CN201010537883	20101104
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US9912602 BB	20180306	US20150968638	20151214

Priority:

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US20100909544	20101021	US20100914097	20101028	US20140282826	20140520
US20140321688	20140701	US20150968638	20151214		

Probable Assignee: INTEL CORP

Assignee(s): (std): BERGMAN ARAN ; CHERVYAKOV ANDREY ; CHOI YANG SEOK ; ETEMAD KAMRAN ; INTEL CORP ; HSUAN YI ; MOHANTY SHANIDEV ; HIMAYAT NAGEEN ; JOHNSSON KERSTIN ; MASLENNIKOV ROMAN O ; KHORYAEV ALEXEY ; MALTSEV ALEXANDER ; SHARAGA AVISHAY ; YANG XIANGYING ; VENKATACHALAM MUTHAIAH ; YIN HUJUN ; MOHANTY SHANTIDEV ; SYDIR JAROSLAW ; SHAN CHANG HONG ; VENKATACHLAM MUTHAIAH ; SYDIR JAROSLAW J ; TALWAR SHILPA ; SHILOV MIKHAIL A

Inventor(s): (std): ALEXANDER MALTSEV ; ALEXEY KHORYAEV ; ANDREY CHERVYAKOV ; SHAN CHANG HONG ; SHARAGA A ; SYDIR JAROSLAW J ; VENKATACHLAM MUTHAIAH ; XIANGYING YANG ; YIN HUJUN ; YANG X ; X YANG ; VENKATACHLAM M ; VENKATACHALAM MUTHAIAH ; VENKATACHALAM M ; TALWAR SHILPA ; SYDIR JAROSLAW ; YANG SEOK CHOI ; YANG XIANGYING ; SHANIDEV MOHANTY ; MUTHAIAH VENKATACHALAM ; JAROSLAW SYDIR ; AVISHAY SHARAGA ; SHRAGA AVISHAY ; SHILPA TALWAR ; SHILOV MIKHAIL A ; SHARAGA AVISHAY ; KAMRAN ETEMAD ; MOHANTY SHANIDEV ; NAGEEN HIMAYAT ; MOHANTY SHANTIDEV ; MASLENNIKOV ROMAN O ; MALTSEV ALEXANDER ; M VENKATACHALAM ; HSUAN YI ; HIMAYAT NAGEEN ; ETEMAD KAMRAN ; ETEMAD K ; CHOI YANG SEOK ; CHERVYAKOV ANDREY ; BERGMAN ARAN ; TALWAR S ; SYDIR J J ; S TALWAR ; N HIMAYAT ; K JOHNSSON ; JOHNSSON K ; J J SYDIR ; HIMAYAT N ; SHANTIDEV MOHANTY ; KHORYAEV ALEXEY ; KERSTIN JOHNSON ; JOHNSON KERSTIN

Inventor(s): JJSYDIR ; KERSTIN JOHNSON ; AVISHAY SHRAGA ; A SHARAGA ; KJOHNSON ; M VENKATACHLAM ; MIKHAIL A SHILOV ; MVENKATACHLAM ; ROMAN O MASLENNIKOV ; NHIMAYAT ; ASHARAGA ; STALWAR ; XYANG ; K ETEMAD

Agent(s): RYUKA IP LAW FIRM; THORPE NORTH AND WESTERN LLP; CARRIE A BOONE P C; CARRIE A BOONE PC; COOL PATENT P C; KENNETH J; JOSEPH P; COOL PATENT PC; KACVINSKY DAISAK BLUNI PLLC; SCHWABE WILLIAMSON AND WYATT PC

Title: **METHOD** FOR **TRANSMITTING** ACK/NACK SIGNAL IN **WIRELESS COMMUNICATION SYSTEM** APPLIED CARRIER AGGREGATION AND **APPARATUS** THEREFOR

Abstract: Source: US2012014329A [EN] A **method** for **transmitting** ACK/NACK signal in a **wireless communication system** applied carrier aggregation is disclosed herein. More specifically, the **method** includes receiving multiple transmission **blocks** respectively through multiple **downlink** component carriers from a base station, determining ACK/NACK responses corresponding to each of the multiple transmission **blocks** by decoding the multiple transmission **blocks**, mapping the ACK/NACK responses to a ACK/NACK state information, and **transmitting** the ACK/NACK state information through a single **uplink** component carrier, wherein ACK information included in the ACK/NACK state information indicates a number of ACK response among the ACK/NACK responses.

Classifications:

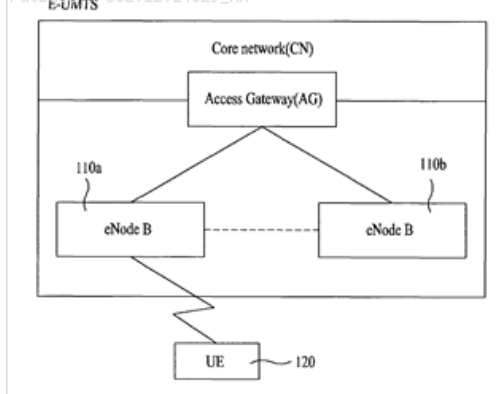
International (IPC 8-9): H04B7/26 H04J11/00 H04L1/16 H04L1/18 H04L5/00 H04W4/00 H04W72/04 H04W74/08 H04W92/00 (Advanced/Invention)

CPC: H04L5/0055 H04W72/0413 H04L1/1607 H04L1/1861 H04L5/0007 H04L5/0053 H04W74/0833

European: H04L1/16F H04L1/18R11 H04L5/00A2A1 H04L5/00C6

US: 1/1 370/310 370/310S 370/328 370/328P 370/329

PatBase US2012014329_AA



Family:

Publication number	Publication date	Application number	Application date
US2012014329 AA	20120119	US20100259060	20100312
US2014023019 AA	20140123	US20130029518	20130917
US2014233491 AA	20140821	US20140259980	20140423
US2014362815 AA	20141211	US20140468095	20140825
US2015236837 AA	20150820	US20150702396	20150501
US8611281 BB	20131217	US20100259060	20100312
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US8848616 BB	20140930	US20140259980	20140423
US9036562 BB	20150519	US20140468095	20140825
US9246658 BB	20160126	US20150702396	20150501
WO10114237 A2	20101007	WO2010KR01561	20100312
WO10114237 A3	20101125	WO2010KR01561	20100312

Priority:

US20090165907P 20090402	US20090172203P 20090423	US20100259060 20100312
WO2010KR01561 20100312	US20110259060 20110922	US20130029518 20130917
US20140259980 20140423	US20140468095 20140825	US20150702396 20150501

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHUNG JAE HOON ; HAN SEUNG HEE ; KIM SO YEON ; KWON YEONG HYEON ; LG ELECTRONICS INC

Inventor(s): (std): CHUNG JAE HOON ; HAN SEUNG HEE ; KIM SO YEON ; KWON YEONG HYEON

Agent(s): BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

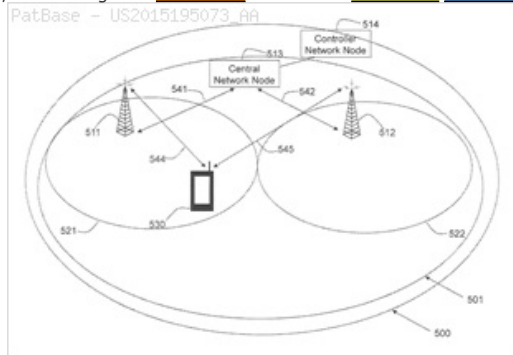
Title: CENTRAL **NETWORK** NODE, FIRST **NETWORK** NODE, FIRST **WIRELESS DEVICE**, **CONTROLLER NETWORK** NODE, AND **METHODS** THEREIN, OF INSTRUCTING THE FIRST **NETWORK** NODE TO **TRANSMIT** TO THE FIRST **WIRELESS DEVICE**

Abstract: Source: US2015195073A [EN] A **method** performed by a central **network** node of instructing one of a first **network** node and a second **network** node to **transmit** to a first **wireless device**, wherein all operate in a combined cell deployment. The central **network** node receives a first Channel Quality Indicator, CQI, and a third CQI sent by the first **wireless device**. The first CQI has been computed by the first **wireless device** based on a first unique signal **transmitted** by the first **network** node. The third CQI has been computed by the first **wireless device** based on a second unique signal **transmitted** by the second **network** node. The central **network** node identifies the one of the first and the second **network** nodes having a better channel quality, based on the received first CQI and the third CQI. The central **network** node sends a first message to the identified **network** node, instructing it to **transmit** to the first **wireless device**.

Classifications:

International (IPC 8-9): H04L1/00 H04L1/16 H04L5/00 H04W28/16
H04W36/08 H04W72/00 H04W72/08 H04W72/12 (Advanced/Invention);
H04L1/00 H04W36/00 H04W72/12 (Advanced/Non-invention)
CPC: H04L5/0057 H04W72/085 H04W28/16 H04L1/0026 H04L1/1671
H04W36/0005 H04W36/08 H04W72/1278

US: 455/452.2 455/560



Family:

Publication number	Publication date	Application number	Application date
EP2982174 A1	20160210	EP20140720271	20140403
IN08471DN2015 A	20160610	IN2015DN08471	20150916
US2015195073 AA	20150709	US20140373806	20140403
US9660789 BB	20170523	US20140373806	20140403
WO14163570 A1	20141009	WO2014SE50406	20140403

Priority:

US20130808309P 20130404 US20140373806 20140403 WO2014SE50406 20140403

Probable Assignee: TELEFONAKTIEBOLAGET L M ERICSSON PUBL

Assignee(s): (std): ERICSSON TELEFON AB L M ; ERICSSON TELEFON AB L M PUBL ; TELEFONAKTIEBOLAGET L M ERICSSON PUBL ; TELEFONAKTIEBOLAGET LM ERICSSON PUBL

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Inventor(s): G RANSSON BO ; OVESJ FREDRIK

Agent(s): BRUCE ALEXANDER RICHARD HENRY; BAKER BOTTS LLP; BOU FAICAL ROGER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: TRANSMISSION **METHOD** AND **DEVICES** IN A **COMMUNICATION SYSTEM** WITH CONTENTION-BASED DATA TRANSMISSION

Abstract: Source: US2011292895A [EN] A **method** is described for data transmission by **user** equipments adapted to **transmit** data using resource **blocks** allocated by a radio **network**. The radio **network** is adapted to allocate resource **blocks** to a dedicated one of the **user** equipments or to a plurality of the **user** equipments. The **method** comprises the step of allocating at least one of the resource **blocks** that is not allocated to any dedicated **user** equipment to a first plurality of the **user** equipments. The allocation is signaled to the **user** equipments. A first **user** equipment of said first plurality obtains data for transmission. At least a first part of the data is **transmitted** by the first **user** equipment using said at least one resource **block**. **Devices** embodying the invention and **methods** of operating the **devices** are also described. Contention based data transmission in **uplink** is enabled without previous scheduling **request** and scheduling grant.

Classifications:

International (IPC 8-9): H04J1/00 H04J11/00 H04L12/26 H04L5/00 H04W24/00 H04W28/18 H04W4/00 H04W52/54 H04W72/02 H04W72/04 H04W72/10 H04W72/12 H04W74/04

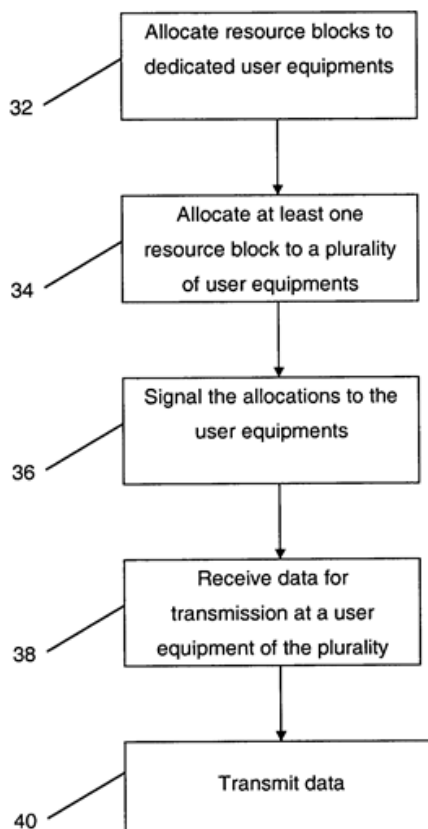
H04W74/08 (Advanced/Invention);
H04W72/04 (Advanced/Non-invention);
H04W72/00 H04W74/00 (Core/Invention)

CPC: H04L5/0042 H04W72/085 H04L5/0007 H04L5/0091 H04W72/042 H04W72/10 H04W74/04 H04L5/0058 H04L5/0039

European: H04L5/00A2A1 H04L5/00C2A H04L5/00C3 H04L5/00E H04W72/08D H04W72/10 T04W72/04F4

US: 1/1 370/252 370/252P 370/329 370/329P 370/329S 455/450

PatBase - US2011292895_AA



Family:

Publication number	Publication date	Application number	Application date
EP2368401 A1	20110928	EP20090776563	20090424
EP2415314 A1	20120208	EP20090788536	20090507
IN02556KN2011 A	20160826	IN2011KN02556	20110620
JP2012523157 T2	20120927	JP20120503360T	20090507
JP5384720 B2	20140108	JP20120503360T	20090507
US2011292895 AA	20111201	US20090130485	20090424
US2012099453 AA	20120426	US20090262563	20090507
US2015016402 AA	20150115	US20140501161	20140930
US8861449 BB	20141014	US20090130485	20090424
US9100161 BB	20150804	US20140501161	20140930
WO10057540 A1	20100527	WO2009EP03017	20090424
WO10114446 A1	20101007	WO2009SE50499	20090507

Priority:

US20080116906P 20081121	US20090166407P 20090403	US20090130485 20090424
WO2009EP03017 20090424	US20090262563 20090507	WO2009SE50499 20090507
US20110130485 20110810	US20140501161 20140930	

Probable Assignee: TELEFONAKTIEBOLAGET LM ERICSSON PUBL

Assignee(s): (std): ERICSSON TELEFON AB L M ; MEYER MICHAEL ; PARKVALL STEFAN ; PEISA JANNE ; SAGFORS MATS FREDRIK ; SAAGFORS MATS FREDRIK ; SAAGFORS MATS ; SAAGFORS MATS FREDRIK ; WAGER STEFAN HENRIK ANDREAS ; WIEMANN HENNING ; WAGER STEFAN

Assignee(s): TELEFONAKTIEBOLAGET LM ERICSSON PUBL ; TELEFONAKTIEBOLAGET LM ERICSSON (PUBL) ; SAGFORS MATS ; TELEFONAKTIEBOLAGET L M ERICSSON PUBL

Inventor(s): (std): SAAGFORS MATS FREDRIK ; WIEMANN HENNING ; WAGER STEFAN HENRIK ANDREAS ; SAAGFORS MATS FREDRIK ; MEYER MICHAEL ; WAGER STEFAN ; SAAGFORS MATS ; PEISA JANNE ; PARKVALL STEFAN ; SAGFORS MATS FREDRIK

Inventor(s): SAGFORS MATS

Agent(s): TONSCHIEDT ANDREAS; KUEHN FRIEDRICH HEINRICH; COATS AND BENNETT PLLC; HASSELGREN JOAKIM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU
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MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV
SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SECOND NODE, POSITIONING NODE AND METHODS THEREIN

Abstract: Source: US2014106774A [EN] Some embodiments herein disclose a method in a second node (12,13) for performing a positioning measurement on at least uplink signals transmitted by a wireless device (10) served by a first node (12) in a wireless communication network (1). The second node (12,13) obtains information related to a non-contiguous uplink configuration associated with a carrier frequency, wherein the non-contiguous uplink configuration further comprises one or more multi-cluster uplink transmissions from the wireless device (10). Furthermore, the second node (12,13) performs a positioning measurement on at least signals transmitted by the wireless device (10) in the one or more multi-cluster transmissions determined based on the obtained information.

Classifications:

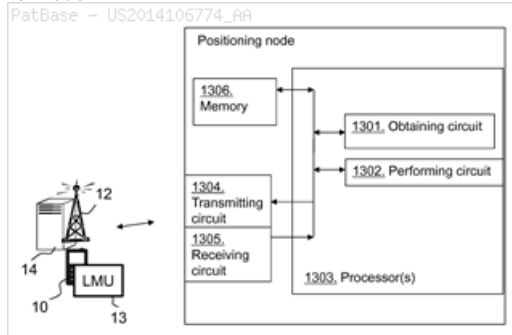
International (IPC 8-9): G01S5/02 H04W48/16

H04W64/00 (Advanced/Invention);

G01S5/02 H04W48/16 (Advanced/Non-invention)

CPC: H04W64/00 G01S5/0221 H04W48/16

US: 455/456.1 455/456.5



Family:

Publication number	Publication date	Application number	Application date
DE602013017095 D1	20170316	DE201360017095T	20131003
EP2907352 A2	20150819	EP20130783677	20131003
EP2907352 B1	20170201	EP20130783677	20131003
ID201703130 A	20170331	ID2015P0002741	20131003
IN03911DN2015 A	20151002	IN2015DN03911	20150507
TW201415929 A	20140416	TW20130135156	20130927
US2014106774 AA	20140417	US20130861276	20130411
US9026140 BB	20150505	US20130861276	20130411
WO14057398 A2	20140417	WO20131B59079	20131003
WO14057398 A3	20141106	WO20131B59079	20131003

Priority:

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US20130861276 20130411

EP20130783677 20131003

WO20131B59079 20131003

Probable Assignee: TELEFONAKTIEBOLAGET LM ERICSSON PUBL

Assignee(s): (std): ERICSSON TELEFON AB L M ; ERICSSON TELEFON AB L M PUBL ; TELEFONAKTIEBOLAGET LM ERICSSON PUBL

Assignee(s): TELEFONAKTIEBOLAGET L M ERICSSON PUBL

Inventor(s): (std): BALDEMAIR ROBERT ; KAZMI MUHAMMAD ; SIOMINA IANA

Agent(s): MARKS AND CLERK LUXEMBOURG LLP; HOFFMANN EITLE; PARDOMUAN OLOAN LUBIS; HASSELGREN ERIC JOAKIM ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** CONTROL INFORMATION IN RADIO **COMMUNICATION** **SYSTEM**

Abstract: Source: US2012106478A [EN] A **method** for **transmitting** control information using PUCCH format 3 in a radio **communication system** includes detecting one or more Physical **Downlink** Control Channels (PDCCHs), receiving one or more Physical **Downlink** Shared Channel (PDSCH) signals corresponding to the one or more PDCCHs, and determining a PUCCH resource value nPUCCH(3,p) corresponding to a value of a **transmit** power control (TPC) field of a PDCCH for a PDSCH signal on a secondary cell (SCell) among a plurality of PUCCH resource values configured by a higher layer for the PUCCH format 3. If a single antenna port transmission mode is configured, the PUCCH resource value nPUCCH(3,p) indicated by the TPC field is mapped to one PUCCH resource for a single antenna port, and, if a multi-antenna port transmission mode is configured, the PUCCH resource value nPUCCH(3,p) indicated by the TPC field is mapped to a plurality of PUCCH resources for multiple antenna ports.

Classifications:

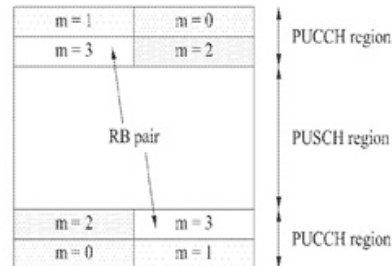
International (IPC 8-9): G01R31/08 H04B7/04 H04B7/06 H04B7/26 H04J1/00 H04J11/00 H04J99/00 H04L5/00 H04Q7/00 H04Q7/24 H04W16/28 H04W28/06 H04W52/58 H04W72/04 (Advanced/Invention); H04L1/18 H04L5/00 (Advanced/Non-invention)

CPC: H04L5/0023 H04L5/0055 H04W52/58 H04L1/1812 H04L5/0053 H04W72/0406 H04W72/042 H04W52/18 H04W72/0473

European: H04L5/00C6 H04L5/00C6A T04L5/00A3C

US: 1/1 370/252 370/329 370/329P 370/338 455/422.1 455/450

PatBase - US2012106478_AA



Family:

Publication number	Publication date	Application number	Application date
CN103026648 A	20130403	CN201180036115	20111102
CN103026648 B	20150805	CN201180036115	20111102
CN105119696 A	20151202	CN201510386101	20111102
EP2448167 A2	20120502	EP20110008734	20111102
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US2014376502 AA	20141225	US20140481459	20140909
US2015078304 AA	20150319	US20140542344	20141114
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US9461798 BB	20161004	US20140542344	20141114
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WO12060630 A2	20120510	WO2011KR08295	20111102
WO12060630 A3	20120705	WO2011KR08295	20111102

Priority:

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WO2011KR08295 20111102	US20130945683 20130718	US20140481459 20140909
US20140542344 20141114	JP20140246159 20141204	

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO ; LG ELECTRONICS INC

Inventor(s): (std): HAN SEUNG HEE ; HAN SEUNGHEE ; KIM JI NMIN ; KIM JINMIN ; LEE HYUN WOO ; LEE HYUNWOO

Agent(s): FRENKEL MATTHIAS ALEXANDER; AOKI ATSUSHI; TSURUTA JUNICHI; LEE HONG DEGERMAN KANG AND WAIMEY; JEFFREY; JONATHAN; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR CHANNEL RESOURCE MAPPING IN CARRIER AGGREGATION

Abstract: Source: US2011170499A [EN] **Methods** and **apparatus** for preventing physical **hybrid** automatic **repeat request (HARQ)** indicator channel (PHICH) ambiguities or collisions, for example, in a multi-carrier **system** or when **transmitting** multiple streams over multiple antennas, are described. **Methods** may include dividing resources or groups among multiple component carriers (CCs), using and assigning unused or vacant resources to CCs, forcing usage of adaptive **HARQ** processes in specified scenarios, setting a value for the cyclic shift of the corresponding **uplink** demodulation reference signals (DMRS) to a previous value for semi-persistent scheduling, and assigning a different first resource **block** for semi-persistent scheduling **uplink** resources and random access response grants for multiple CCs.

Classifications:

International (IPC 8-9): H04J1/00 H04J11/00 H04J3/22 H04L1/18 H04L27/26 H04L5/00 H04W4/00 H04W72/04

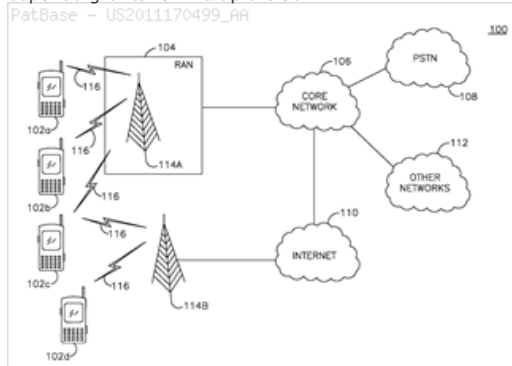
H04W72/12 (Advanced/Invention)

International (IPC 1-7): H04L29/06

CPC: H04L1/1812 H04L1/1861 H04L5/0007 H04L5/001 H04L5/0023 H04L5/0055 H04W72/042 H04L5/0053

European: H04L1/18D H04L1/18R11 H04L5/00A2A1 H04L5/00A2A11 H04L5/00A3C H04L5/00C6 H04L5/00C6A

US: 370/329 370/329P 370/330



Family:

Publication number	Publication date	Application number	Application date
AR079865 AA	20120222	AR2011P100064	20110110
CA2786472 AA	20110714	CA20112786472	20110107
CA2786472 C	20161220	CA20112786472	20110107
CN102754381 A	20121024	CN201180005669	20110107
CN102754381 B	20151125	CN201180005669	20110107
EP2522096 A2	20121114	EP20110701896	20110107
JP2013516916 T2	20130513	JP20120548135T	20110107
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TWI563810 B	20161221	TW20110100859	20110110
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US2015036637 AA	20150205	US20140518684	20141020
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Priority:

US20100293540P 20100108 US20100307721P 20100224 US20110986407 20110107
 WO2011US20458 20110107 US20140518684 20141020

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

Assignee(s): (std): INTERDIGITAL PATENT HOLDINGS ; INTERDIGITAL PATENT HOLDINGS INC ; NAYEB NAZAR SHAHROKH ; OLESEN ROBERT L ; PAN KYLE JUNG LIN ; TSAI ALLAN Y

Inventor(s): (std): JUNG LIN PAN KYLE ; NAYEB NAZAR SHAHROKH ; OLESEN ROBERT L ; PAN KYLE JUNG LIN ; SHAHROKH NAYEB NAZAR ; TSAI ALLAN Y

Agent(s): RIDOUT AND MAYBEE LLP; HANSSON ANDERS MAX; TANI AND ABE PC; VOLPE AND KOENIG PC; QUASIM A; HUQ ABHIK A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **APPARATUS** AND **METHOD** FOR **TRANSMITTING** AND RECEIVING REFERENCE SIGNAL (RS) FOR DEMODULATION

Abstract: Source: US2012201318A [EN] An **apparatus** and **method** for **transmitting** and receiving a demodulation reference signal (DM RS) are disclosed. A **method** for controlling a base station (BS) to **transmit** a demodulation reference signal (Demodulation RS or DM RS) in a **wireless communication system** includes **transmitting**, by the base station (BS), a DM RS for a relay node (RN) to the relay node (RN) through a specific backhaul subframe to which an extended cyclic prefix (CP) is applied. The DM RS is **transmitted** over two resource elements (REs) of individual subcarriers having subcarrier frequency indexes 2, 5, 8 and 11 in a frequency axis within a second slot of the specific backhaul subframe.

Classifications:

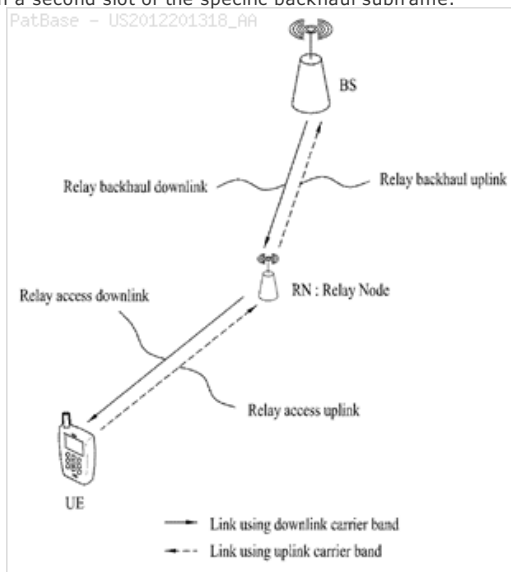
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H04B7/14 H04B7/155 H04J11/00 H04L5/00 (Advanced/Non-invention)

CPC: H04L27/2601 H04L5/003 H04L5/0007 H04L5/00 H04W72/0446 H04L27/2627 H04W72/0426 H04L27/2611 H04B1/76 H04B7/0413 H04J11/00 H04L27/2602 H04L5/0051 H04L5/0048 H04B7/155 H04L27/2607 H04B7/15542 H04L5/0016 H04L5/0023 H04L5/0053

European: H04L27/26M1G1 H04L5/00A3C H04L5/00C H04L5/00C5 H04L5/00C6 T04B7/155 T04L27/26M T04L5/00A2A1

US: 370/211 370/315 370/328 370/329 370/345 375/219 375/259 375/260 375/260P 375/295 375/316 455/10 455/25 455/7 455/8



Family:

Publication number	Publication date	Application number	Application date
AU2011210102 AA	20110804	AU20110210102	20110128
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US20140532788	20141104	JP20150075258	20150401	JP20160131435	20160701
CA20162788453	20160712	US20160350997	20161114		

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): KIM BYOUNG HOON ; KIM EUN SUN ; KIM HAK SEONG ; LEE DAE WON ; LG ELECTRONICS INC ; SEO HAN BYUL

Assignee(s): LG ELECTRONIC INC

Inventor(s): (std): KIM BYOUNG HOON ; KIM EUN SUN ; KIM HAK SEONG ; KIM HAK SUNG ; LEE DAE WON ; LI DAE WENG ; SEO HAN BYUL ; SEONG KIM HAK ; WON LEE DAE ; BYUL SEO HAN

Inventor(s): DAE WON LEE ; HAK SEONG KIM ; HAN BYUL SEO

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SMART AND BIGGAR; FRENKEL MATTHIAS ALEXANDER; AOKI ATSUSHI; TSURUTA JUNICHI; LEE HONG DEGERMAN KANG AND WAIMEY; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR CONTROLLING TRANSMISSION POWER OF SOUNDING REFERENCE SIGNAL IN **WIRELESS COMMUNICATION SYSTEM** AND **APPARATUS** FOR SAME

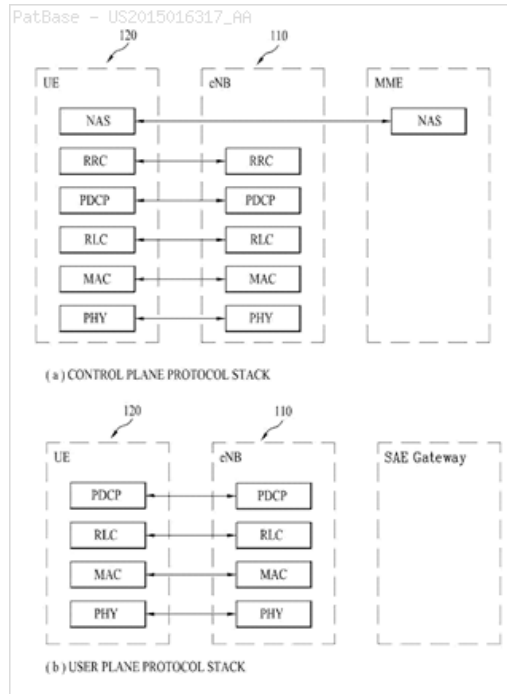
Abstract: Source: US2015016317A [EN] In the present invention, disclosed is a **method** for a terminal, which receives a **downlink** signal from a first base station and **transmits an uplink** signal to a second base station, **transmitting** a sounding reference signal (SRS) in a **wireless communication system**. More specifically, the **method** comprises the steps of: receiving from the first base station **downlink** control information including a triggering message of a first SRS; determining transmission power of the first SRS on the basis of the **downlink** control information; and **transmitting** the first SRS to the first base station with the transmission power that is determined, wherein a transmission power control command field, which is included in the **downlink** control information, is applied to a closed loop parameter for determining the transmission power of the first SRS.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04J3/00 H04L1/16 H04L1/18 H04L27/26 H04L5/00 H04L5/14 H04W24/10 H04W4/00 H04W52/08 H04W52/14 H04W52/24 H04W52/32 H04W52/36 H04W52/38 H04W52/48 H04W72/04 (Advanced/Invention); H04L5/14 H04W52/14 H04W52/16 H04W52/40 (Advanced/Non-invention)

CPC: H04W52/143 H04W72/042 H04W24/10 H04W72/0413 H04W52/48 H04J11/0023 H04B7/2603 H04L5/0016 H04L5/0055 H04L5/0057 H04L27/261 H04B7/2643 H04L5/1469 H04L5/0051 H04W52/146 H04W52/16 H04W52/247 H04W52/248 H04W52/325 H04W52/40 H04L1/1861 H04L5/001 H04L5/0023 H04L5/0035 H04L5/0048 H04L5/0094 H04L5/14 H04W52/08

US: 1/1 370/280 370/329



Family:

Publication number	Publication date	Application number	Application date
CN104321994 A	20150128	CN201380015723	20130320
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CN104380625 A	20150225	CN201380015637	20130320
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Priority:

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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): KIM BYOUNG HOON ; KIM BYOUNGHOON ; KIM HAK SEONG ; KIM HAKSEONG ; KIM KI JUN ; KIM KIJUN ; PARK JONG HYUN ; PARK JONGHYUN ; SEO HAN BYUL ; SEO HANBYUL ; YANG SUCK CHEL ; YANG SUCKCHEL

Agent(s): BIRCH STEWART KOLASCH AND BIRCH LLP; LEE HONG DEGERMAN KANG WAIMEY; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
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SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD**, **APPARATUS** AND **COMPUTER** PROGRAM TO MAP A CYCLIC SHIFT TO A CHANNEL INDEX

Abstract: Source: US2009196240A [EN] From the **network** perspective, an **uplink** resource allocation (PDCCH) is sent that grants an **uplink** resource to a plurality of **user** equipments UEs, and the allocation has an indication of a cyclic shift CS for each of the plurality of UEs. The granted **uplink** resource is mapped to a **downlink** resource (PHICH) in dependence on the indicated CS for each of the plurality of UEs. The mapping is such that for a predetermined number of UEs being allocated a same **uplink** resource in a single MU-MIMO **uplink** resource allocation grant, each pair of said predetermined number of UEs which map to an adjacent **downlink** resource exhibit an optimized CS relative to one another. The **network** sends to each of the respective plurality of UEs on the respective mapped **downlink** resource an indication (ACK/NACK) about data received (on a PUSCH). **Apparatus**, **method**, and **computer** programs for **network** and UE side implementations are detailed.

Classifications:

International (IPC 8-9): H04B7/212 H04L1/16 H04L1/18 H04L27/26
H04L5/00 H04W H04W28/04 H04W4/00 H04W72/00 H04W72/04
H04W72/12 H04W72/14 (Advanced/Invention);
H04L5/00 H04W28/04 H04W72/12 (Advanced/Non-invention);
H04W72/00 (Core/Invention);
H04W28/02 (Core/Non-invention)

International (IPC 1-7): H04W72/04

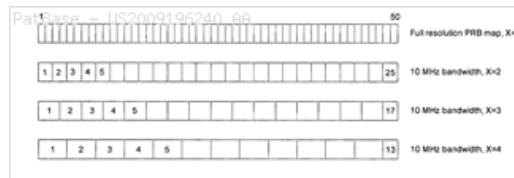
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H04L1/1812 H04L5/0048 H04L27/2607 H04W72/04

European: H04L1/16F H04L1/18R7 H04L5/00C4 H04L5/00C6 H04L5/00E H04W72/04F T04L5/00A2A T04W28/04 T04W72/04N

US: 370/329 370/329P 370/337 370/344



Family:

Publication number	Publication date	Application number	Application date
CN101940046 A	20110105	CN200980104045	20090204
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US9538504 BB	20170103	US20140564311	20141209
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ZA201005029 A	20110330	ZA20100005029	20100715

Priority:

US20080063620P	20080204	US20080063620	20080204	CN200980104045	20090204
EP20090709137	20090204	US20090322550	20090204	WO2009EP51259	20090204
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Probable Assignee: NOKIA SOLUTIONS AND NETWORKS OY

Assignee(s): (std): FREDRIKSEN FRANK ; NOKIA SIEMENS NETWORKS OY ; NOKIA SIEMENS NETUORKS OJ ; NOKIA SOLUTIONS AND NETWORKS OY ; TIIROLA ESA ; TIIROLA ESA TAPANI

Inventor(s): (std): FRANK FREDRIKSEN ; FREDRIKSEN FRANK ; TAPANI TIIROLA ESA ; TIIROLA EHSA TAPANI ; TIIROLA ESA ; TIIROLA ESA TAPANI ; ESA TIIROLA

Agent(s): BORGSTROEM MARKUS; HARRINGTON AND SMITH PC; HARRINGTON AND SMITH; NOKIA SIEMENS NETWORKS OY

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: POWER CONTROL FOR ACK/NACK FORMATS WITH CARRIER AGGREGATION

Abstract: Source: US2012113907A [EN] A **system** and **method** for determining a Physical **Uplink** Control Channel (PUCCH) power control parameter $h(nCQI, nHARQ)$ for two Carrier Aggregated (CA) PUCCH formats-PUCCH format 3 and channel selection. The value of $h(nCQI, nHARQ)$ may be based on only a linear function of $nHARQ$ for both of the CA PUCCH formats. Based on the CA PUCCH format configured for the **User** Equipment (UE), the e-Node B (eNB) may instruct the UE to select or apply a specific linear function of $nHARQ$ as a value for the power control parameter $h(nCQI, nHARQ)$, so as to enable the UE to more accurately establish **transmit** power of its PUCCH signal. Values for another PUCCH power control parameter-DELTA Δ -PUCCH(F)-are also provided for use with PUCCH format 3. A new offset parameter may be signaled for each PUCCH format that has **transmit** diversity configured

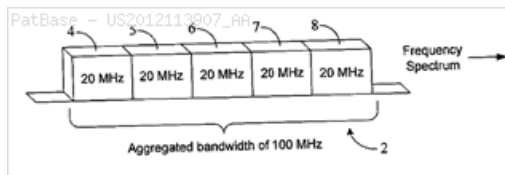
Classifications:

International (IPC 8-9): H04L1/12 H04L1/18 H04W H04W16/28 H04W24/10 H04W28/04 H04W52/04 H04W52/08 H04W52/12 H04W52/14 H04W52/18 H04W52/32 H04W52/34 H04W72/04 H04W76/04 (Advanced/Invention); H04W52/08 H04W52/14 H04W52/24 H04W52/34 (Advanced/Non-invention); H04W (Subclass/Invention)

CPC: H04W52/146 H04W52/08 H04W52/325 H04W52/34 H04L1/1812 H04W52/241 H04W52/18 H04W76/048 H04W76/28

European: H04W52/32C T04W52/08 T04W52/14U

US: 1/1 370/329 370/329P

**Family:**

Publication number	Publication date	Application number	Application date
CN103283286 A	20130904	CN201180064547	20110518
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CN107105490 A	20170829	CN201710056304	20110518
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Priority:

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JP20150048538 20150311	US20150807585 20150723	US20170845194 20171218

Probable Assignee: TELEFONAKTIEBOLAGET LM ERICSSON PUBL

Assignee(s): (std): BALDEMAIR ROBERT ; CHENG JUNG FU ; ERICSSON TELEFON AB L M ; ERICSSON TELEFON AB L M PUBL ; GERSTENBERGER DIRK ; LARSSON DANIEL ; TELEFONAKTIEBOLAGET L M ERICSSON PUBL ; TELEFONAKTIEBOLAGET LM ERICSSON PUBL ; TELEFONAKTIEBOLAGET L M ERICSSON ; TELEFONAKTIEBOLAGET L M EHRIKSSON PABL

Assignee(s): TELEFON AB L M ERICSSON ; TELEFONAKTIEBOLAGET LM ERICSSON ; TELEFONAKTIEBOLAGET LM ERICSSON (PUBL)

Inventor(s): (std): DANIEL LARSSON ; DIRK GERSTENBERGER ; ROBERT BALDEMAIR ; ZHENG RONGFU ; LARSSON DANIEL ; GERSTENBERGER DIRK ; CHENG JUNG FU ; CHEHN TSZJUN FU ; BALDEMAIR ROBERT ; BALDEMAJR ROBERT

Agent(s): HOFFMANN EITL; DE ELZABURU ALBERTO; HAGIWARA YASUSHI; KAMEYA YOSHIKI; KANEMOTO TETSUO; TOLGA CAYLAK; CASON TODD A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** CONTROL INFORMATION IN **WIRELESS COMMUNICATION SYSTEM**

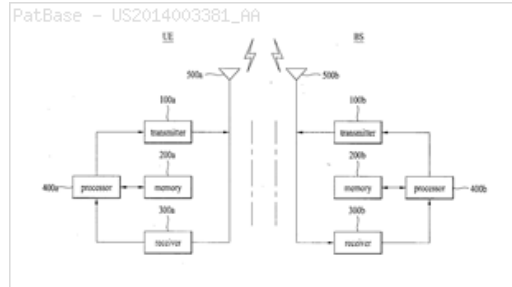
Abstract: Source: US2014003381A [EN] A **method** and **apparatus** for **transmitting** control information in a **wireless communication system** which can support carrier aggregation (CA) are provided. In the **method** for **transmitting** control information from a terminal to at least one base station, the terminal receives at least one of a Physical **Downlink** Control Channel (PDCCH) and a Physical **Downlink** Shared Channel (PDSCH) from the at least one base station through at least one serving cell configured in the terminal and **transmits** control information associated with reception of the PDCCH or reception of a PDSCH indicated by the PDCCH to the at least one base station, wherein each of the at least one base station uses a different **uplink** and **downlink** configuration (**UL-DL** configuration) and a **uplink-downlink (UL-DL)** configuration used in the at least one serving cell can be changed based on a timing determined according to a preset condition.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04L1/00 H04L1/16 H04L1/18 H04L5/00 H04W72/04 (Advanced/Invention); H04L1/06 (Advanced/Non-invention)

CPC: H04W72/042 H04L1/0026 H04L1/0027 H04L1/06 H04L1/1671 H04L1/1812 H04L1/1822 H04L1/1854 H04L5/001 H04L5/0055 H04L1/1896

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
CN103503344 A	20140108	CN201280020345	20120427
CN103503344 B	20161012	CN201280020345	20120427
EP2702713 A2	20140305	EP20120777536	20120427
EP2702713 A4	20140924	EP20120777536	20120427
KR20140012675 A	20140203	KR20137024537	20120427
US2014003381 AA	20140102	US20120005705	20120427
US2017055241 AA	20170223	US20160237274	20160815
US9432982 BB	20160830	US20120005705	20120427
US9763243 BB	20170912	US20160237274	20160815
WO12148222 A2	20121101	WO2012KR03300	20120427
WO12148222 A3	20130321	WO2012KR03300	20120427

Priority:

US20110479820P 20110427 US20120005705 20120427 WO2012KR03300 20120427
US20130005705 20130917 US20160237274 20160815

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO ; LG ELECTRONICS INC

Inventor(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO ; LEE HYUN WOO ; KIM JIN MIN ; HAN SEUNG HEE

Agent(s): KATERLE AXEL; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: USER EQUIPMENT, BASE STATION, AND RADIO COMMUNICATION METHOD

Abstract: Source: US2015358133A [EN] To reduce inter-cell interference in a communication system in which a base station and a terminal communicate with each other. The base station supplies uplink transmission restriction subframe configuration information indicating subframes in which the transmission of an uplink signal is restricted to the terminal. As a result of the base station setting the uplink transmission restriction subframe configuration information, the terminal restricts the transmission of an uplink signal in an uplink transmission restriction subframe which is an uplink subframe and which is a subframe indicated by the uplink transmission restriction subframe configuration information. In the uplink transmission restriction subframe, the terminal performs an operation for not transmitting an uplink signal, an operation for delaying the transmission of an uplink signal, an operation for transmitting the uplink signal which does not include a specific uplink physical channel, or an operation for transmitting the uplink signal which does not include physical channels other than a specific uplink physical channel.

Classifications:

International (IPC 8-9): H04L5/00 H04L5/14 H04W16/14 H04W16/32 H04W28/06 H04W48/08 H04W72/04 H04W76/04 (Advanced/Invention)

CPC: H04W16/32 H04W72/0446 H04L5/0023 H04L5/0035 H04L5/0092 H04L5/1469 H04L5/14 H04L5/0073 H04L5/0048 H04W16/14 H04W76/20

US: 370/280

PatBase - US2015358133_AA

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Family:

Publication number	Publication date	Application number	Application date
CN104919878 A	20150916	CN201480004307	20140106
EP2945447 A1	20151118	EP20140738318	20140106
EP2945447 A4	20160803	EP20140738318	20140106
ID201703284 A	20170331	ID2015P0004783	20140106
IN04148CN2015 A	20160701	IN2015CN04148	20150713
JP2014109302 A1	20170119	JP20140556407T	20140106
JP6139569 B1	20170531	JP20140556407T	20140106
US2015358133 AA	20151210	US20140759716	20140106
WO14109302 A1	20140717	WO2014JP50036	20140106

Priority:

JP20130001524 20130109 WO2014JP50036 20140106

Probable Assignee: SHARP KK

Assignee(s): (std): SHARP CORP ; SHARP KK

Assignee(s): SHARP KABUSRIKI KAISHA

Inventor(s): (std): IMAMURA KIMIHIKO ; KUSASHIMA NAOKI ; NOGAMI TOSHIZO ; SHIMEZAWA KAZUYUKI

Inventor(s): TOSHIZO NOGAMI ; NAOKI KUSASHIMA ; KAZUYUKI SHIMEZAWA ; KIMIHIKO IMAMURA

Agent(s): MUELLER HOFFMANN AND PARTNER; IR YT WIDJOJO; FUKUCHI TAKEO

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR TRANSRECEIVING SIGNALS AND **APPARATUS** FOR SAME

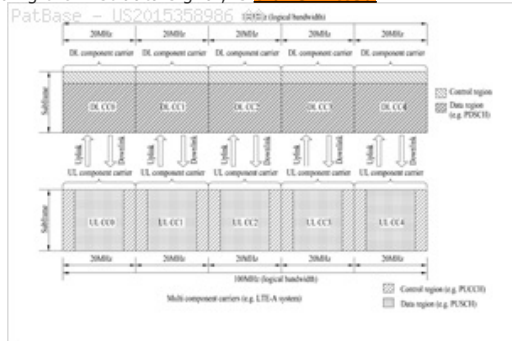
Abstract: Source: US2015358986A [EN] The present invention relates to a **method** for **transmitting** a signal in a **wireless communication system** and an **apparatus** for same, and comprises the steps of: receiving a plurality of data signals through a plurality of subframes; and **transmitting** acknowledgement (ACK)/negative ACK (NACK) signals with respect to the plurality of data signals, wherein when at least one subframe from among the plurality of subframes is a special subframe, an ACK/NACK signal with respect to a first data signal that is received through the at least one subframe is **transmitted** from an **uplink** subframe different from an **uplink** subframe from which an ACK/NACK signal with respect to a second data signal from among the plurality of data signals, not including the first data signal, is **transmitted**.

Classifications:

International (IPC 8-9): H04J11/00 H04J3/00 H04L1/18 H04L27/26 H04L5/00 H04L5/14 H04W72/12 H04W88/02 (Advanced/Invention); H04W88/02 (Advanced/Non-invention)

CPC: H04L5/14 H04W88/02 H04W72/1289 H04L1/1812 H04L5/0055 H04L5/0092 H04W72/12 H04L1/1854 H04L5/0048 H04W72/1205

US: 370/280 370/329



Family:

Publication number	Publication date	Application number	Application date
CN104969500 A	20151007	CN201480007350	20140206
CN104982084 A	20151014	CN201480007819	20140206
EP2955870 A1	20151216	EP20140748990	20140206
EP2955870 A4	20170215	EP20140748990	20140206
EP2955971 A1	20151216	EP20140749123	20140206
EP2955971 A4	20160907	EP20140749123	20140206
US2015358986 AA	20151210	US20140760092	20140206
US2015358997 AA	20151210	US20140760971	20140206
US2017273104 AA	20170921	US20170611076	20170601
US9706567 BB	20170711	US20140760971	20140206
US9763264 BB	20170912	US20140760092	20140206
WO14123378 A1	20140814	WO2014KR01038	20140206
WO14123379 A1	20140814	WO2014KR01039	20140206

Priority:

US20130761239P	20130206	US20130786554P	20130315	US20130808616P	20130404
US20130821252P	20130509	US20130837150P	20130619	US20140760092	20140206
WO2014KR01039	20140206	WO2014KR01038	20140206	US20140760971	20140206
US20150760971	20150714	US20170611076	20170601		

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): AHN JOON KUI ; AHN JOONKUI ; SEO DONGYOUN ; YANG SUCKCHEL ; SEO DONG YOUN ; YANG SUCK CHEL ; YI YUNJUNG ; YI YUN JUNG

Agent(s): TER MEER STEINMEISTER AND PARTNER; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

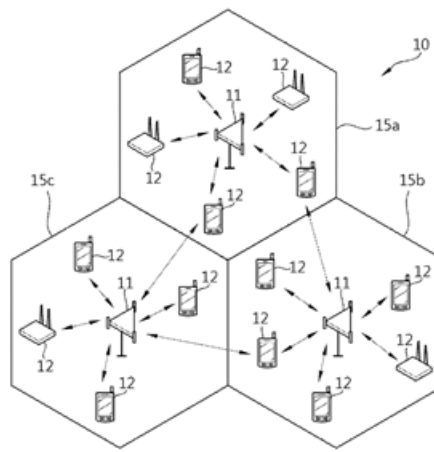
Title: **METHOD** AND **DEVICE** FOR **TRANSMITTING UPLINK** CONTROL INFORMATION IN **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2012320951A [EN] Disclosed are a **method** and a **device** for **transmitting uplink** control information (UCI) by a terminal in a **wireless communication system**. The UCI transmission **method** comprises the steps of: generating an encoding information bit stream by performing channel coding for a UCI bit stream; generating complex modulation symbols by performing modulation for the generated encoding information bit stream; spreading the complex modulation symbols in **block**-wise on the basis of an orthogonal sequence; and **transmitting** the spread complex modulation symbols to a base station. The encoding information bit stream is generated by a channel coding for circularly **repeating** the UCI bit stream.

Classifications:

International (IPC 8-9): H03M13/00 H03M13/29 H04B1/00 H04B1/707 H04B15/00 H04B7/26 H04J11/00 H04J13/00 H04L1/00 H04L1/18 H04L27/00 H04L27/18 H04L27/26 H04L5/00 H04W72/04 (Advanced/Invention); H04B7/26 H04J11/00 H04L27/26 (Advanced/Non-invention)
CPC: H04L1/0026 H04L1/0067 H04L1/007 H04L1/1858 H04L5/0007 H04L5/0053 H04L27/18 H04L27/26 H04L27/2636 H04L5/0055 H04W72/0413 H04B7/26 H04J11/0023 H04L1/0009 H04L1/0013 H03M13/2909 H03M13/13 H03M13/2933 H03M13/2966 H03M13/2996 H03M13/6356 H03M13/6362 H03M13/6525 H04L1/0041 H04L1/0057 H04L1/0073 H04L1/1861 H04J13/0048 H04J13/0074 H04J2011/0006 H04J2011/0016
European: H03M13/13 H03M13/29C H03M13/29T1C H03M13/29T8 H03M13/63R1 H03M13/63R2 H03M13/65K1 H04L1/00B7U H04L1/18R9 H04L5/00C6 T04L1/00A9B T04L1/00B7R T04L5/00A2A1
US: 370/329 375/141 375/285 375/295 375/E1.002

PatBase - US2012320951_AA



Family:

Publication number	Publication date	Application number	Application date
CN102812654 A	20121205	CN201180014980	20110324
CN102812654 B	20150311	CN201180014980	20110324
CN102823213 A	20121212	CN201180017667	20110224
CN102823213 B	20160106	CN201180017667	20110224
DE602011029059 D1	20160922	DE201160029059T	20110324
EP2550761 A2	20130130	EP20110759744	20110324
EP2550761 A4	20131120	EP20110759744	20110324
EP2550761 B1	20160810	EP20110759744	20110324
KR101802518 B1	20171129	KR20110015653	20110222
KR20110100143 A	20110909	KR20110015653	20110222
US2012320951 AA	20121220	US20110582031	20110224
US2012328042 AA	20121227	US20110580351	20110324
US2014355555 AA	20141204	US20140464454	20140820
US2017111896 AA	20170420	US20160390175	20161223
US8649462 BB	20140211	US20110580351	20110324
US8848763 BB	20140930	US20110582031	20110224
US9572140 BB	20170214	US20140464454	20140820
US9900869 BB	20180220	US20160390175	20161223
WO11108822 A2	20110909	WO2011KR01281	20110224
WO11108822 A3	20120119	WO2011KR01281	20110224
WO11118995 A2	20110929	WO2011KR02032	20110324
WO11118995 A3	20120126	WO2011KR02032	20110324

Priority:

US20100309867P 20100303	US20100310278P 20100304	US20100316818P 20100323
US20100317284P 20100325	US20100318365P 20100328	KR20110015653 20110222
WO2011KR01281 20110224	US20110582031 20110224	EP20110759744 20110324
WO2011KR02032 20110324	US20110580351 20110324	US20140464454 20140820
US20160390175 20161223		

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHO HAN GYU ; CHUNG JAE HOON ; HAN SEUNG HEE ; JANG JI WOONG ; KANG SEUNG HYUN ; LG ELECTRONICS INC ; KWON YEONG HYEON

Inventor(s): (std): CHO HAN GYU ; CHUNG JAE HOON ; HAN SEUNG HEE ; KANG SEUNG HYUN ; KWON YEONG HYEON ; JANG JI WOONG

Inventor(s): JI WOONG JANG ; SEUNG HEE HAN ; SEUNG HYUN KANG ; YEONG HYEON KWON ; JAE HOON CHUNG ; HAN GYU CHO

Agent(s): WUESTHOFF AND WUESTHOFF PATENTANWALTE PARTG MBB; Gunzelmann Rainer; GUNZELMANN RAINER; BIRCH STEWART KOLASCH AND BIRCH LLP; LEE HONG DEGERMAN KANG AND WAIMEY; YANG MOON OCK; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR HALF-**DUPLEX** FDD OPERATION IN LTE FDD **NETWORK**

Abstract: Source: US2013242824A [EN] A **method** and **apparatus** for half-**duplex** (HD) frequency division **duplex** (FDD) (HD-FDD) operation are disclosed. The **method** in a **wireless transmit/receive unit** (WTRU) includes monitoring a first frequency for all **downlink** sub-frames for **downlink communication** except during a cell specific **uplink** frame, retuning to a second frequency and **transmitting** a scheduling **request** (SR) during a WTRU specific period of the cell specific **uplink** frame, wherein the WTRU specific period is based on a duty cycle, and retuning to the first frequency and receiving an **uplink** grant in a subsequent sub-frame.

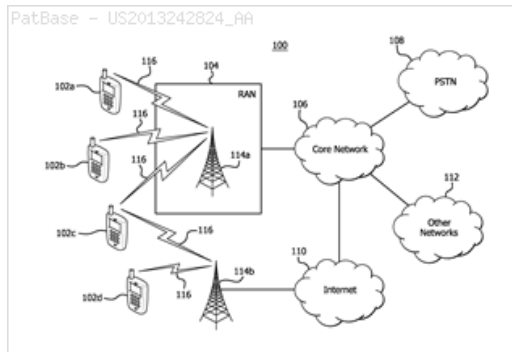
Classifications:

International (IPC 8-9): H04B1/50 H04J1/00 H04L1/16 H04L1/18 H04L5/00 H04L5/16 H04W72/04 H04W72/14 (Advanced/Invention);

H04L5/00 (Advanced/Non-invention)

CPC: H04L1/1819 H04L1/1822 H04L1/1893 H04L5/0023 H04L5/0053 H04L5/0091 H04W72/0446 H04W72/14 H04L5/16 H04B1/50 H04L5/0048 H04L5/0055

US: 370/281



Family:

Publication number	Publication date	Application number	Application date
EP2826196 A1	20150121	EP20130714415	20130315
JP2015512571 T2	20150427	JP20150500652T	20130315
TW201401830 A	20140101	TW20130109248	20130315
TWI620431 B	20180401	TW20130109248	20130315
US2013242824 AA	20130919	US20130836812	20130315
US2017085360 AA	20170323	US20160369633	20161205
US9515696 BB	20161206	US20130836812	20130315
WO13138715 A1	20130919	WO2013US32041	20130315

Priority:

US20120612057P 20120316 US20120644903P 20120509 US20130836812 20130315
 WO2013US32041 20130315 US20160369633 20161205

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

Assignee(s): (std): INTERDIGITAL PATENT HOLDINGS ; INTERDIGITAL PATENT HOLDINGS INC

Inventor(s): (std): LEE MOON IL ; RUDOLF MARIAN ; STERN BERKOWITZ JANET A ; TSAI ALLAN Y ; XI FENGJUN ; XI FENG JUN ; SADAGHI POURIYA ; SADEGHI POURIYA

Agent(s): JOHANSSON MAGNUS; TANI AND ABE PC; JULIAN F; THOMPSON MELISSA B

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR HANDLING MEASUREMENT GAPS IN **WIRELESS NETWORKS**

Abstract: Source: US2010034126A [EN] In a **wireless communication system**, **user** equipment (UE) has autonomy provided by one or more set of rules to handle processing during a measurement gap. UE can ignore or use only a portion of the whole measurement gap if not needed. Thereby, an urgent need for remaining tuned to source carrier frequency can be supported, such as utilizing Random Access Channel (RACH) procedure. UE can also choose to tune to a target carrier frequency supporting **timely** handovers. Depending on the type of processing required (download shared channel (**DL**-SCH, **UL**-SCH, **TTI** bundling, RACH or SR), the UE may store **requests** and process the measurements during the gap or ignore the gap measurement as if there were no gaps.

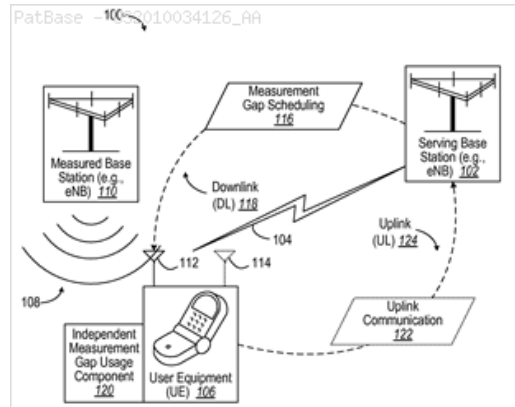
Classifications:

International (IPC 8-9): G06F11/14 H04B1/18 H04B17/00 H04B7/00 H04B7/04 H04J11/00 H04L1/18 H04W24/10 H04W36/00 H04W36/06 H04W36/30 H04W52/02 H04W72/08 H04W72/12 H04W74/08 (Advanced/Invention); H04B7/04 H04J11/00 H04W24/10 H04W36/00 H04W36/06 H04W36/30 (Advanced/Non-invention); G06F11/14 H04B1/18 H04B17/00 H04B7/00 H04L1/16 H04W36/00 (Core/Invention)

CPC: H04W74/085 H04W24/10 H04W36/0088 H04W72/1268 H04L1/1812 H04W72/0453

European: H04W72/12D2 T04W24/10 T04W36/00P8C

US: 370/310 370/310P 370/329 455/150.1 455/150.100S 455/67.11 455/67.110S 714/748 714/748S 714/E11.131 714/E11.131S



Family:

Publication number	Publication date	Application number	Application date
AT551870 E	20120415	AT20090791300T	20090807
BRPI0917436 A2	20151201	BR2009PI17436	20090807
CA2731101 AA	20100211	CA20092731101	20090807
CN102113376 A	20110629	CN200980130029	20090807
CN102113376 B	20150225	CN200980130029	20090807
CN104093212 A	20141008	CN201410215146	20090807
DE602009006191 D1	20120524	DE200960006191T	20090807
DE602009021676 D1	20140306	DE200960021676T	20090807
DE602009021677 D1	20140306	DE200960021677T	20090807
EP2332366 A1	20110615	EP20090791300	20090807
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EP2451236 A1	20120509	EP20120153669	20090807
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EP2466982 A1	20120620	EP20120159633	20090807
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ES2385190 T3	20120719	ES20090791300T	20090807
ES2457743 T3	20140429	ES20120153669T	20090807
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IN00422CN2011 A	20111202	IN2011CN00422	20110119
JP2011530895 T2	20111222	JP20110522282T	20090807
JP5254445 B2	20130807	JP20110522282T	20090807
KR101259453 B1	20130429	KR20117005458	20090807
KR20110039394 A	20110415	KR20117005458	20090807
RU2011108460 A	20120920	RU20110108460	20090807
RU2472314 C2	20130110	RU20110108460	20090807
TW201012258 A	20100316	TW20090126762	20090810
TWI499323 B	20150901	TW20090126762	20090810
US2010034126 AA	20100211	US20090500996	20090710
US2014071919 AA	20140313	US20130077783	20131112
WO10017490 A1	20100211	WO2009US53172	20090807

Priority:

US20080087541P 20080808 US20090500996 20090710 EP20090791300 20090807
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US20130077783 20131112

Probable Assignee: QUALCOMM INC

Assignee(s): (std): MEYLAN ARNAUD ; QUALCOMM INC ; TENNY NATHAN EDWARD ; KITAZOE MASATO

Assignee(s): KVEHLKOMM INKORPOREJTED ; QUALCOMM INC SAN DIEGO

Inventor(s): (std): KITAZOE MASATO ; MEJLAN ARNO ; MEYLAN ARNAUD ; TENNI NATAN EHDVARD ; TENNY NATHAN EDWARD ; TENNY NATHAN

Inventor(s): ARNAUD MEYLAN ; TENNY NATHAN EDWARD SAN DIEGO ; TENNY NATHAN EDWARD SAN DIEGO CA ; MEYLAN ARNAUD SAN DIEGO ; MEYLAN ARNAUD SAN DIEGO CA ; NATHAN EDWARD TENNY ; KITAZOE MASATO SAN DIEGO ; KITAZOE MASATO SAN DIEGO CA ; MASATO KITAZOE

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **FLEXIBLE** DTX AND DRX IN A **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2008186892A [EN] A data traffic responsive battery-saving approach for a **wireless user** equipment (UE) **device** such as an data packet capable cellphone incorporates **flexible** discontinuous transmission and reception (DTX-DRX) when in Long Term Evolution (LTE) active mode as dictated by an evolved radio access **network** (RAN) such as an evolved base node (eNode B). A UE **device requests** are made on unsynchronized random access channel (RACH). Lengthening a duration of DRX and reducing requirements for synchronization **uplink** transmissions results in power savings of up to 75 percent, as well as creating opportunities for reducing interference and for allocating additional **time** slots for data. This power savings is compatible with other **downlink** scheduling proposals, with control channel-less Voice-over-IP (VoIP), and need not target those UE **devices** in bad radio conditions. Legacy UE **devices** that can interact with the eNode B by being capable of radio resource control (RRC) signaling continue to be compatible.

Classifications:

International (IPC 8-9): G08C17/02 H04B7/00 H04B7/185 H04B7/26 H04M1/73 H04Q7/32 H04W H04W28/10 H04W4/00 H04W52/02 H04W52/10 H04W52/24 H04W52/44 H04W72/04 H04W72/12 H04W74/08 H04W76/04 H04W88/02 H04W92/10 (Advanced/Invention); H04W28/04 H04W72/04 H04W72/12 H04W74/08 H04W88/02 (Advanced/Non-invention); G08C17/00 H04M1/72 H04W52/00 H04W72/00 H04W74/00 H04W76/00 (Core/Invention); H04W28/02 H04W72/00 H04W74/00 H04W88/00 (Core/Non-invention); H04W (Subclass/Invention)

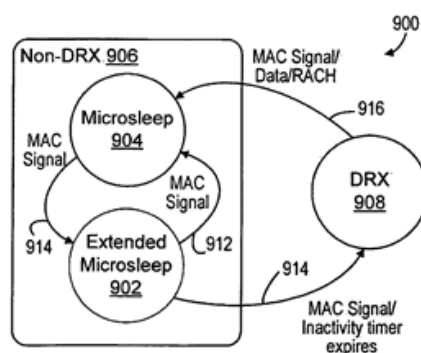
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European: H04W52/02 T04W52/02T2A

US: 370/311 370/311P 370/318 370/329 370/437 455/522

PatBase - US2008186892_AA



Family:

Publication number	Publication date	Application number	Application date
AU2008213946 AA	20080814	AU20080213946	20080205
BRPI0807395 A2	20140624	BR2008PI07395	20080205
CA2675250 AA	20080714	CA20082675250	20080205
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EP2123072 A2	20091125	EP20080729041	20080205
HK1138709 A1	20140321	HK20100105217	20100528
IL199703 A0	20100415	IL20080199703	20080205
JP2010519793 T2	20100603	JP20090549200T	20080205
JP2013138439 A2	20130711	JP20130007061	20130118
JP2014014110 A2	20140123	JP20130168708	20130814
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JP5345740 B2	20131120	JP20130007061	20130118
JP5826804 B2	20151202	JP20130168708	20130814
KR101122440 B1	20120309	KR20097018561	20080205
KR20090117791 A	20091112	KR20097018561	20080205
MX2009008095 A1	20090812	MX20090008095	20080205
RU2009133308 A	20110320	RU20090133308	20080205
RU2433571 C2	20111110	RU20090133308	20080205
TW200904213 A	20090116	TW20080104924	20080205
TWI375427 B	20121021	TW20080104924	20080205
US2008186892 AA	20080807	US20080024849	20080201
US2013258919 AA	20131003	US20120421865	20120316
US8169957 BB	20120501	US20080024849	20080201
WO08097965 A2	20080814	WO2008US53044	20080205
WO08097965 A3	20081106	WO2008US53044	20080205

Priority:

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WO2008US53044 20080205	US20120421865 20120316	

Probable Assignee: QUALCOMM INC

Assignee(s): (std): DAMNJANOVIC ALEKSANDAR ; QUALCOMM INC

Assignee(s): QUALCOMM INCORPORATED ; KVEHLKOMM INKORPOREJED

Inventor(s): (std): ALEKSANDAR DAMNJANOVIC ; DAMNJANOVIC ALEKSANDAR ; DAMNJANOVICH ALEKSANDAR

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; HESELBERGER JOHANNES; QUALCOMM INC; DARRELL SCOTT; NERRIE M; BACHAND RICHARD A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: EFFICIENT EXTENDED POWER HEADROOM REPORTING FOR SEMI-PERSISTENT SCHEDULING

Abstract: Source: US2014023010A [EN] The invention relates to a **method** for **transmitting** power headroom information from a **user** equipment to the base station. The transmission is made dependent on scheduling type of the **uplink** resource, for which the power headroom information is to be calculated and over which it is to be **transmitted**. If the **uplink** resource is dynamically scheduled, then the extended power headroom report according to Rel. 10 is **transmitted**; if it is scheduled persistently, e.g. as part of a semi-persistent scheduling configuration, then a basic power headroom report according to Rel. 8/9 is **transmitted**. The invention circumvents the problem of delaying data in persistently allocated **uplink** resources when **transmitting** an extended power headroom report.

Classifications:

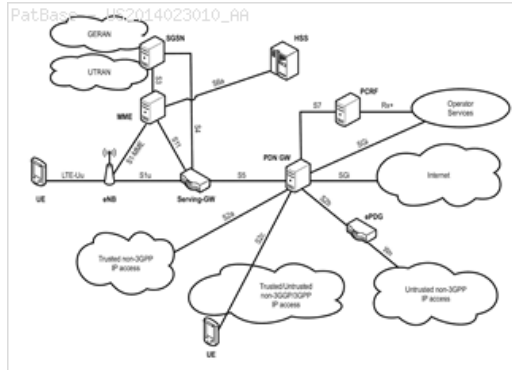
International (IPC 8-9): H04W24/10 H04W4/00 H04W52/34 H04W52/36 H04W72/04 (Advanced/Invention);

H04W52/34 H04W72/10 H04W72/12 (Advanced/Non-invention)

CPC: H04W52/365 H04W52/34 H04W72/10 H04W72/1242 H04W72/1278

European: H04W52/36H T04W72/10 T04W72/12B6 T04W72/12F

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
EP2509373 A1	20121010	EP20110160833	20110401
EP2695453 A1	20140212	EP20120706787	20120302
EP2695453 B1	20180103	EP20120706787	20120302
JP2014509811 T2	20140421	JP20140501465T	20120302
JP5945587 B2	20160705	JP20140501465T	20120302
US2014023010 AA	20140123	US20120996675	20120302
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WO12130373 A1	20121004	WO2012EP00942	20120302

Priority:

EP20110160833 20110401 EP20120706787 20120302 WO2012EP00942 20120302

Probable Assignee: PANASONIC CORP

Assignee(s): (std): FEUERSAENGER MARTIN ; LOEHR JOACHIM ; PANASONIC CORP ; TAMURA TAKASHI ; WENGERTER CHRISTIAN ; PANASONIC IP CORP AMERICA

Assignee(s): PANASONIC INTELLECTUAL PROPERTY OF AMERICA CORP

Inventor(s): (std): WENGERTER CHRISTIAN ; TAMURA TAKASHI ; LOEHR JOACHIM ; FEUERSAENGER MARTIN

Agent(s): GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAEUSSER; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAEUSSER; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; PEARNE AND GORDON LLP; KUHLMANN DIETMAR

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD AND APPARATUS FOR TRANSMITTING AND RECEIVING CHANNEL STATUS INFORMATION (CSI) FOR SUPPORTING 256QAM IN WIRELESS ACCESS SYSTEM

Abstract: Source: US2014169300A [EN] A method and apparatus for transmitting and receiving channel status information (CSI) for supporting 256QAM in a wireless access system are disclosed. A method for transmitting a Channel Quality Indication (CQI) index for 256QAM (Quadrature Amplitude Modulation) in a wireless access system includes: receiving, by a user equipment (UE), a message including a 256QAM indicator indicating use of a 256QAM scheme; performing channel measurement of a downlink channel through which downlink data is transmitted; and transmitting a CQI index in response to the channel measurement result to a base station (BS), wherein the UE simultaneously manages a first CQI feedback table for supporting a legacy modulation scheme and a second CQI feedback table for supporting the 256QAM scheme.

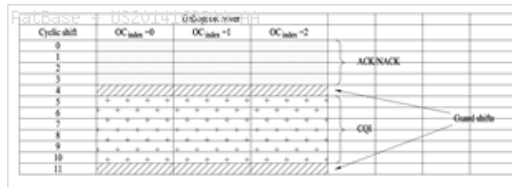
Classifications:

International (IPC 8-9): H04B7/06 H04J11/00 H04L1/00 H04L27/00 H04L27/26 H04L27/34 H04L5/00 H04W24/08 H04W24/10 H04W72/04 (Advanced/Invention);

H04L25/03 H04L27/18 H04L27/34 (Advanced/Non-invention)

CPC: H04L1/0003 H04L1/0007 H04L1/0026 H04L5/001 H04L5/0098 H04L25/03898 H04L27/0008 H04L27/18 H04B7/0632 H04B7/0626 H04W24/08 H04L1/0005 H04W72/0413 H04L5/0057 H04L27/34 H04L1/0027 H04L1/0016 H04L1/0015

US: 1/1 370/252 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105612726 A	20160525	CN201480054580	20141006
EP3054641 A1	20160810	EP20140850197	20141006
EP3054641 A4	20170614	EP20140850197	20141006
JP2016530826 T2	20160929	JP20160538871T	20141006
JP6251398 B2	20171220	JP20160538871T	20141006
KR101812184 B1	20171226	KR20167000813	20141006
KR20160030512 A	20160318	KR20167000813	20141006
KR20170141821 A	20171226	KR20177036091	20141006
US2014169300 AA	20140619	US20130135174	20131219
US2016211904 AA	20160721	US20140914047	20141006
US2016337073 AA	20161117	US20160218557	20160725
US9432168 BB	20160830	US20130135174	20131219
WO15050416 A1	20150409	WO2014KR09374	20141006
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Priority:

US20120739702P 20121219 US20130883191P 20130927 US20130886653P 20131004
US20130135174 20131219 US20140914047 20141006 WO2014KR09374 20141006
US20160218557 20160725

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS ; LG ELECTRONICS INC

Inventor(s): (std): AHN JOONKUI ; KIM BONGHOE ; SEO DONGYOUN ; YI YUNJUNG

Agent(s): CABINET PLASSERAUD; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR TRANSCIVING A REFERENCE SIGNAL IN A **WIRELESS** CONNECTION **SYSTEM** AND TERMINAL THEREFOR

Abstract: Source: US2015249526A [EN] Disclosed are a **method** for transceiving a reference signal in a **wireless** connection **system** and a terminal therefor. More particularly, the **method** comprises the steps of: generating a plurality of **uplink** reference signal sequences; mapping the generated plurality of **uplink** reference signal sequences to each of three symbols in one frame; and **transmitting** the mapped **uplink** reference signals to a base station. The plurality of **uplink** reference signal sequences is generated by applying an orthogonal cover code having a length of 3.

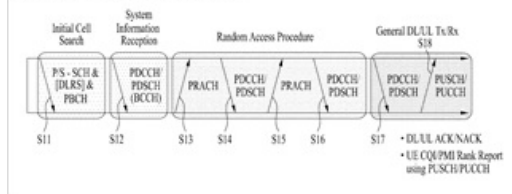
Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04J13/18 H04L27/26 H04L5/00 (Advanced/Invention)

CPC: H04L5/0048 H04J13/18 H04L5/001 H04L5/0051 H04L5/0053 H04L27/2613

US: 1/1 370/329

PatBase - US2015249526_AH



Family:

Publication number	Publication date	Application number	Application date
EP2731284 A2	20140514	EP20120807828	20120704
EP2731284 A4	20150311	EP20120807828	20120704
EP2731284 B1	20180418	EP20120807828	20120704
US2015249526 AA	20150903	US20120126785	20120704
US9313000 BB	20160412	US20120126785	20120704
WO13005986 A2	20130110	WO2012KR05306	20120704
WO13005986 A3	20130314	WO2012KR05306	20120704

Priority:

US20110504247P 20110704 US20120126785 20120704 WO2012KR05306 20120704

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Assignee(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO ; LG ELECTRONICS INC

Inventor(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO

Agent(s): FRENKEL MATTHIAS ALEXANDER; DENTONS US LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: POWER CONTROL METHOD AND APPARATUS IN WIRELESS ACCESS SYSTEM

Abstract: Source: US2016044600A [EN] The present invention provides methods for transmitting a scheduling request (SR) in a wireless access system supporting a multiple connection mode, in which a terminal is connected to two or more small cells, and apparatuses supporting the same. According to one embodiment of the present invention, a method for transmitting an SR, by a terminal, in a wireless access system supporting a multiple connection mode comprises the steps of: receiving an upper layer signal including an SR parameter for SR transmission from a first small cell which is in a multiple connection mode state; generating an SR on the basis of the SR parameter; and transmitting the SR using a physical uplink control channel (PUCCH) signal. Herein, the SR parameter is pre-set by negotiation between the first small cell and a second small cell which is in a multiple connection mode. Furthermore, in the multiple connection mode, the terminal maintains multiple connections with two or more small cells including the first small cell and the second small cell, and the first small cell and the second small cell may be connected to each other via a non-ideal backhaul link.

Classifications:

International (IPC 8-9): H04B7/00 H04L5/00 H04W24/08 H04W52/04 H04W52/18 H04W52/32 H04W52/38 H04W72/04

H04W76/02 (Advanced/Invention);

H04L5/00 H04W84/04 (Advanced/Non-invention)

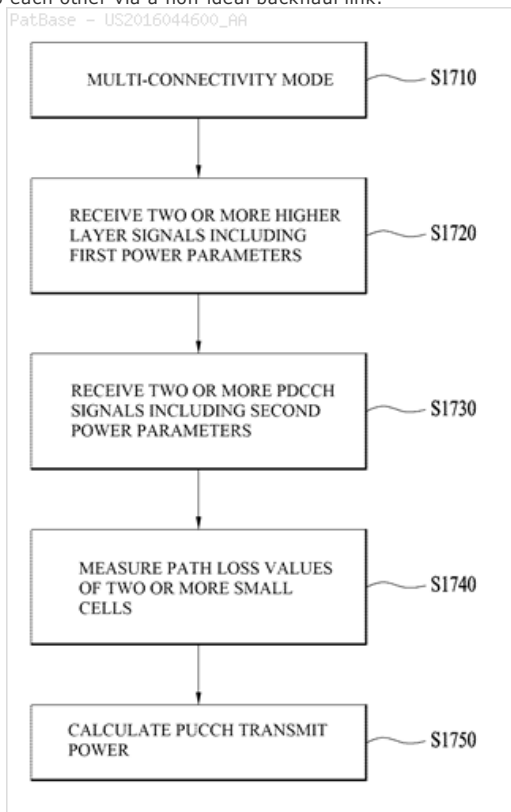
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H04L5/0057 H04W52/04 H04W76/15

US: 455/127.1

PatBase - US2016044600_AA



Family:

Publication number	Publication date	Application number	Application date
CN105191448 A	20151223	CN201480022157	20140421
EP2988557 A1	20160224	EP20140785750	20140421
EP2988557 A4	20161207	EP20140785750	20140421
IN03231MN2015 A	20160722	IN2015MN03231	20151117
US2016044600 AA	20160211	US20140782750	20140421
US2017150457 AA	20170525	US20170402688	20170110
US9565640 BB	20170207	US20140782750	20140421
WO14171802 A1	20141023	WO2014KR03461	20140421

Priority:

US20130813653P 20130419 US20130819653P 20130506 WO2014KR03461 20140421
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Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): YANG SUCKCHEL ; SEO DONGYOUN ; KIM BONGHOE ; AHN JOONKUI

Agent(s): CABINET PLASSERAUD; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR ENHANCING COVERAGE OF MACHINE TYPE **COMMUNICATION** (MTC) **DEVICES**

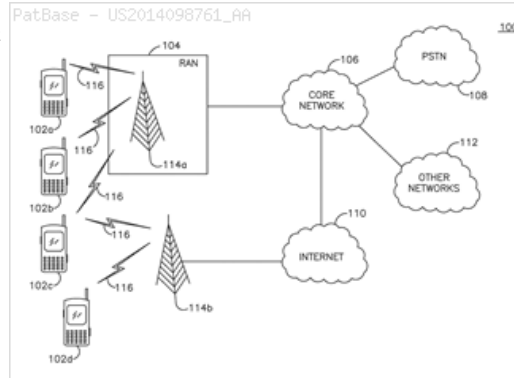
Abstract: Source: US2014098761A [EN] A **method** and **apparatus** are described for a low cost machine-type-**communication** (LC-MTC) **wireless transmit/receive unit** (WTRU) to enhance coverage. An example **method** for physical broadcast channel (PBCH) enhancement includes receiving **system** information on an enhanced PBCH (ePBCH). The ePBCH is located in a set of radio frames which is a subset of available radio frames, where the subset includes fewer than all the available radio frames. The ePBCH is received in at least one radio frame of the set of radio frames. An example **method** for physical random access channel (PRACH) enhancement includes receiving configuration of legacy PRACH resources and enhanced PRACH (ePRACH) resources. The WTRU selects one of legacy PRACH resources or ePRACH resources based on a coverage capability. Another example **method** for PRACH enhancement includes receiving configuration of ePRACH resources. The ePRACH resources include multiple ePRACH resource types, each ePRACH resource type being associated with a coverage capability.

Classifications:

International (IPC 8-9): H04B1/38 H04L29/02 H04W4/00 H04W48/12 H04W72/00 H04W72/02 H04W72/04 H04W74/08 (Advanced/Invention); H04W (Subclass/Invention)

CPC: H04W72/005 H04W48/12 H04W74/006 H04W74/0833 H04W4/02 H04W4/027 H04W4/06 H04B17/318 H04L1/189 H04L1/1819 H04W4/70

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
BR112015007590 A2	20170704	BR20151107590	20131004
CN104704884 A	20150610	CN201380052337	20131004
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EP3185615 A1	20170628	EP20170150944	20131004
HK1213415 A1	20160630	HK20160101157	20160202
JP2015537422 T2	20151224	JP20150535824T	20131004
JP2017022720 A2	20170126	JP20160159286	20160815
KR20150064196 A	20150610	KR20157011749	20131004
RU2015116905 A	20161127	RU20150116905	20131004
TW201429174 A	20140716	TW20130135974	20131004
US2014098761 AA	20140410	US20130046173	20131004
WO14055878 A1	20140410	WO2013US63481	20131004

Priority:

US20120710315P 20121005	US20130753263P 20130116	US20130807945P 20130403
US20130863223P 20130807	EP20130779484 20131004	JP20150535824T 20131004
US20130046173 20131004	WO2013US63481 20131004	JP20160159286 20160815

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

Assignee(s): (std): INTERDIGITAL PATENT HOLDINGS ; INTERDIGITAL PATENT HOLDINGS INC

Inventor(s): (std): HAIM JOHN W ; LEE MOON IL ; MARIAN RUDOLF ; MOON IL LEE ; NAYEB NAZAR SHAHROKH ; NAZAR SHAHROKH NAYEB ; NOBUYUKI TAMAKI ; RUDOLF MARIAN ; SADEGHI POURIYA ; STERN BERKOWITZ JANET A ; TAMAKI NOBUYUKI ; SHAHROKH NAYEB NAZAR ; POURIYA SADEGHI ; JOHN W HAIM ; JANET A STERN BERKOWITZ ; NAZAR SHAHROKH

Agent(s): JOHANSSON MAGNUS; AWAPATENT AB; TANI AND ABE PC; HUQ ABHIK A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **DEVICE** OF **TRANSMITTING** CONTROL INFORMATION IN A **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2013294353A [EN] The present invention relates to a **wireless communication system**. In more detail, a **method** and **device** of **transmitting** a PUCCH signal in a **wireless communication system** include: (a) performing **block**-wise spreading on a first modulation symbol column by using a length-5 orthogonal sequence corresponding to a sequence index; (b) performing **block**-wise spreading on a second modulation symbol column by using a length-4 orthogonal sequence corresponding to the sequence index; (c) performing each cyclic shift and Discrete Fourier Transform (DFT) pre-coding on a plurality of modulation symbol columns obtained from (a) to (b); and (d) mapping a plurality of complex symbols obtained from (c) into a physical resource for PUCCH transmission.

Classifications:

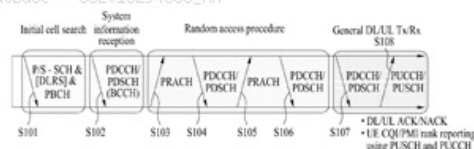
International (IPC 8-9): H04B7/26 H04J11/00 H04L27/01 H04L27/26 H04L5/00 H04W72/04 (Advanced/Invention)

CPC: H04W72/0406 H04L5/001 H04L5/0012 H04L5/0016 H04L5/0023 H04L5/0044 H04L5/0048 H04L5/0053 H04L5/0055 H04L5/0057 H04L27/2636

European: H04L5/00A2A11 H04L5/00C6A H04L5/00C6B T04L5/00A3C T04L5/00C4 T04L5/00C5 T04L5/00C6

US: 370/329

PatBase - US2013294353_AA



Family:

Publication number	Publication date	Application number	Application date
CN102884770 A	20130116	CN201180022264	20110907
CN102884770 B	20150923	CN201180022264	20110907
DE602011032034 D1	20161215	DE201160032034T	20110907
DE602011043284 D1	20171214	DE201160043284T	20110907
EP2615786 A2	20130717	EP20110823768	20110907
EP2615786 A4	20151209	EP20110823768	20110907
EP2615786 B1	20161102	EP20110823768	20110907
EP3032793 A1	20160615	EP20160154417	20110907
EP3032793 B1	20171108	EP20160154417	20110907
ES2614094 T3	20170529	ES20110823768T	20110907
JP2013538018 T2	20131007	JP20130528113T	20110907
JP5859006 B2	20160210	JP20130528113T	20110907
KR101285398 B1	20130710	KR20110090180	20110906
KR20120025994 A	20120316	KR20110090180	20110906
US2013294353 AA	20131107	US20110513177	20110907
WO12033335 A2	20120315	WO2011KR06610	20110907
WO12033335 A3	20120524	WO2011KR06610	20110907

Priority:

US20100380707P 20100908 US20100405191P 20101020 KR20110090180 20110906
 EP20110823768 20110907 EP20160154417 20110907 US20110513177 20110907
 WO2011KR06610 20110907

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): HAN SEUNGHEE ; LEE HYUNWOO ; LG ELECTRONICS INC

Inventor(s): (std): HAN SEUNG HEE ; HAN SEUNGHEE ; LEE HYUN WOO ; LEE HYUNWOO

Agent(s): TER MEER STEINMEISTER AND PARTNER PATENTANWALTE MBB; TER MEER STEINMEISTER AND PARTNER; CARPINTERO MARIO; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SIGNALLING OF MULTIPLE-**USER** MULTIPLE-INPUT AND MULTIPLE-OUTPUT TRANSMISSIONS IN HIGH-SPEED PACKET ACCESS **SYSTEMS**

Abstract: Source: US2011176519A [EN] A **method** for signaling multiple-**user** multiple-input and multiple-output in a high speed packet access **system** is described. A multiple-**user** multiple-input and multiple-output parameter is determined. A message that includes the multiple-**user** multiple-input and multiple-output parameter is determined. The message is sent to a **wireless device**. The **method** may be performed by a **user** equipment, a Node B or a radio **network controller**.

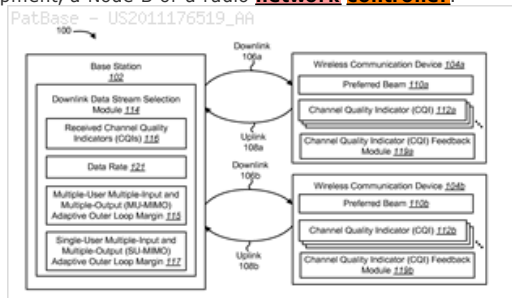
Classifications:

International (IPC 8-9): H04B7/04 H04J99/00 H04W16/28 H04W4/00 H04W72/04 (Advanced/Invention)

CPC: H04B7/0452 H04L1/0026 H04L1/0028 H04L1/1607 H04L5/0023 H04L5/0057 H04W28/18 H04W48/08 H04L5/0055 H04B7/0417 H04B7/0623

European: H04B7/04M5 H04L1/00A9B H04L1/00A9F H04L5/00A3C H04L5/00C6 H04L5/00C6A H04L5/00C6B T04L1/16F T04W28/18 T04W48/08

US: 370/328 370/328S 370/329 370/329S 370/336 370/336P



Family:

Publication number	Publication date	Application number	Application date
CN102598529 A	20120718	CN201080051449	20101117
CN102598529 B	20150506	CN201080051449	20101117
EP2502355 A1	20120926	EP20100787938	20101117
IN04064CN2012 A	20131004	IN2012CN04064	20120508
JP2013511906 T2	20130404	JP20120540026T	20101117
JP5635120 B2	20141203	JP20120540026T	20101117
KR101421658 B1	20140722	KR20127015771	20101117
KR20120095436 A	20120828	KR20127015771	20101117
TW201134121 A	20111001	TW20100139558	20101117
US2011176519 AA	20110721	US20100946705	20101115
WO11063050 A1	20110526	WO2010US57114	20101117

Priority:

US20090262115P 20091117 US20100946705 20101115 WO2010US57114 20101117

Probable Assignee: QUALCOMM INC

Assignee(s): (std): BLANZ JOSEF J ; BRUECK STEFAN ; HOU JILEI ; KAPOOR ROHIT ; QUALCOMM INC ; VITTHALADEVUNI PAVAN KUMAR ; ZHANG DANLU ; ZHANG DANIU

Inventor(s): (std): BLANZ JOSEF ; BLANZ JOSEF J ; BRUECK STEFAN ; DANLU ZHANG ; HOU JI LEI ; HOU JILEI ; JILEI HOU ; JOSEF BLANZ ; KAPOOR ROHIT ; KUMAR VITTHALADEVUNI PAVAN ; ROHIT KAPOOR ; STEFAN BRUECK ; VITTHALADEVUNI PAVAN KUMAR ; ZHANG DAN LU ; ZHANG DANIU ; ZHANG DANLU

Agent(s): DUNLOP HUGH CHRISTOPHER ; SIMON DARREN M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: RESOURCE ALLOCATION, SCHEDULING, AND SIGNALING FOR GROUPING REAL **TIME** SERVICES

Abstract: Source: US2008090583A [EN] The present invention is a **method** and **apparatus** for resource allocation signaling for grouping **user** real **time** services. **Uplink** signaling for voice activity reporting of each **user**'s transition between an active state and an inactive voice state is sent from a **wireless transmit/receive** unit to a Node B. Radio resource allocation to **users** of a **wireless communication system** varies based on **user** measurement reporting, a pre-determined pattern such as frequency hopping, or a pseudorandom function. Grouping **methods** are adjusted to better utilize the voice activity factor, so that statistical **multiplexing** can be used to more efficiently utilize physical resources.

Classifications:

International (IPC 8-9): H04L12/56 H04L29/08 H04M1/00 H04Q7/00 H04Q7/20 H04Q7/38 H04W28/26 H04W4/00 H04W4/06 H04W4/08 H04W72/00 H04W72/04 H04W72/08 H04W72/10 H04W72/12 H04W88/02 H04W88/08 (Advanced/Invention); H04W72/12 (Advanced/Non-invention); H04L12/56 H04M1/00 H04W28/16 H04W4/06 H04W72/00 H04W88/00 (Core/Invention); H04W72/00 (Core/Non-invention); H04L (Subclass/Invention)

International (IPC 1-7): H04L12/56 H04Q7/38

CPC: H04W72/121 H04W72/042 H04W72/1231 H04W72/1289

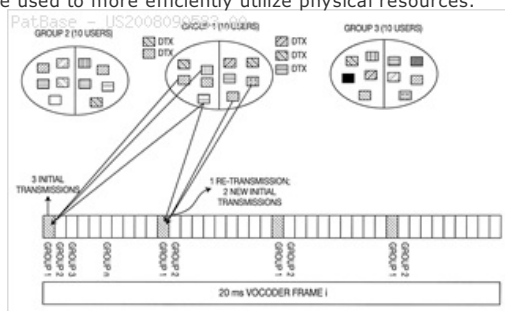
European: H04W72/12B2 T04W72/04F4 T04W72/12B5B

T04W72/12F4

US: 370/329 370/329P 370/330 370/336 370/336S 370/337

370/337S 370/341 370/349 370/349S 370/478 455/45 455/450 455/451 455/451S 455/452.1 455/452.100P 455/452.2

455/452.200S 455/500 455/500S 455/512 455/512S 455/515 455/515S 455/563 455/563S 714/751 714/751S



Family:

Publication number	Publication date	Application number	Application date
AR062457 AA	20081112	AR2007P103701	20070821
AU2007288318 AA	20080228	AU20070288318	20070817
BRPI0714627 A2	20130507	BR2007PI14627	20070817
CA2669560 AA	20090212	CA20072669560	20070817
CN101507302 A	20090812	CN200780031080	20070817
EP2070372 A2	20090617	EP20070836992	20070817
IL197028 A0	20091118	IL20070197028	20070817
IN01202DN2009 A	20090522	IN2009DN01202	20090219
JP2010502103 T2	20100121	JP20090525573T	20070817
KR20090057395 A	20090605	KR20097005673	20090319
KR20090084929 A	20090805	KR20097011800	20070817
MX2009001972 A1	20090415	MX20090001972	20070817
RU2009110150 A	20100927	RU20090110150	20070817
TW200814693 A	20080316	TW20070130635	20070817
US2008090583 AA	20080417	US20070840534	20070817
US2012176993 AA	20120712	US20120424906	20120320
US8165594 BB	20120424	US20070840534	20070817
WO08024283 A2	20080228	WO2007US18279	20070817
WO08024283 A3	20080904	WO2007US18279	20070817

Priority:

US20060839022P 20060821
US20120424906 20120320

US20070840534 20070817

WO2007US18279 20070817

Probable Assignee: DST HOLDINGS INC

Assignee(s): (std): CHANDRA ARTY ; CHEN JOHN S ; INTERDIGITAL TECH CORP ; TERRY STEPHEN E ; WANG JIN ; SAMMOUR MOHAMMED

Assignee(s): SIGNAL TRUST FOR WIRELESS INNOVATION ; DST HOLDINGS INC ; INTERDIGITAL HOLDINGS INC ; INTERDIGITAL INC ; INTERDIGITAL TECHNOLOGY CORP

Inventor(s): (std): CHEN JOHN S ; CHEN PENG ; GANGULI SHO VAN ; JIN WANG ; ARTY CHANDRA ; CHANDRA ARTY ; MOHAMMED SAMMOUR ; SAMMOUR MOHAMMED ; STEPHEN E TERRY ; TERRY STEPHEN E ; WANG JIN ; ZUNGA JUAN CARLOS

Inventor(s): TERRY STEPHEN ; STEPHEN E ; CHEN JOHN ; JOHN S CHEN

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; RIDOUT AND MAYBEE LLP; NORDIN MAGNUS; TANI YOSHIKAZU; ABE KAZUO; VOLPE AND KOENIG PC DEPT ICC; ERIC; ROBERT J; BALLARINI ROBERT J

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SCHEDULING OVER MULTIPLE TRANSMISSION **TIME INTERVALS**

Abstract: Source: US2014328260A [EN] **Methods** and **apparatus** of a NodeB or a **User** Equipment (UE) in **communication** with each other are provided. The NodeB **transmits** and the UE receives Physical **Downlink** Data Channels (PDSCHs) or the UE **transmits** and the NodeB receives Physical **Uplink** Data Channels (PUSCHs) in respective Transmission **Time Intervals (TTIs)**. The PDSCHs or the PUSCHs are scheduled by a **Downlink** Control Information (DCI) format **transmitted** in a Physical **Downlink** Control Channel (PDCCH) in a **TTI**. A **communication** process enabling multi-**TTI** or cross-**TTI** scheduling of PDSCHs or PUSCHs is provided.

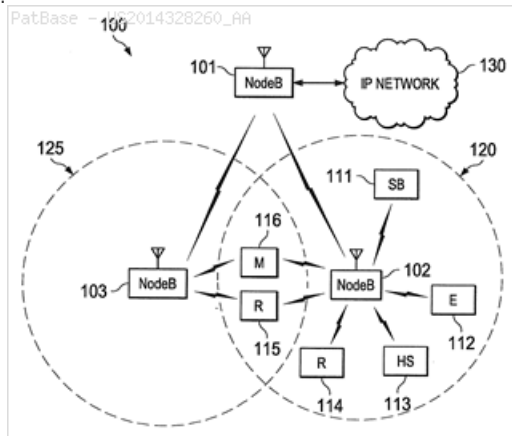
Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04L1/18

H04W72/12 (Advanced/Invention)

CPC: H04W72/1289 H04L1/1887 H04L1/1822

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
EP2962408 A1	20160106	EP20140756406	20140226
EP2962408 A4	20161012	EP20140756406	20140226
KR20150121205 A	20151028	KR20157026742	20140226
US2014328260 AA	20141106	US20140185662	20140220
WO14133320 A1	20140904	WO2014KR01585	20140226

Priority:

US20130769488P 20130226

US20130770120P 20130227

US20140185662 20140220

WO2014KR01585 20140226

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s): (std): SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s): (std): NAM YOUNG HAN ; PAPASAKELLARIOU ARIS

Agent(s): GULDE AND PARTNER; LEE KEON JOO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **USER DEVICE** FOR RECEIVING **DOWNLINK** SIGNAL, AND **METHOD** AND BASE STATION FOR **TRANSMITTING DOWNLINK** SIGNAL

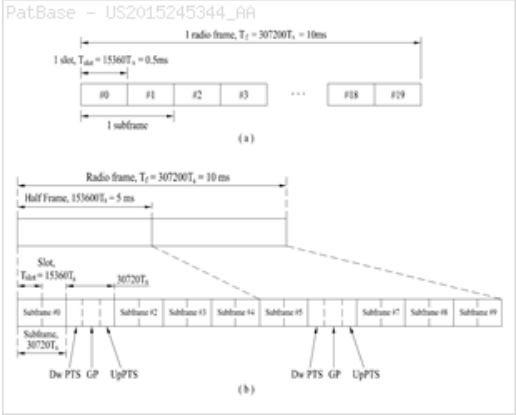
Abstract: Source: US2015245344A [EN] The present invention relates to a **method** and **user device** for **transmitting** first ACK/NACK information on a first cell group including a primary cell and one or more secondary cells from among a plurality of serving cells on a physical **uplink** control channel (PUCCH) of a specific cell in the first cell group, and to a **method** and base station for receiving the first ACK/NACK information on the PUCCH of the specific cell. When the first ACK/NACK information includes ACK/NACK for the primary cell, the specific cell is the primary cell, and, when the first ACK/NACK information includes ACK/NACK on at least one of the one or more secondary cells, the specific cell is a secondary cell from among the one or more secondary cells of the first cell group that is set for the ACK/NACK transmission.

Classifications:

International (IPC 8-9): H04J11/00 H04L1/18 H04L5/00 H04L5/14 H04W72/04 (Advanced/Invention); H04L5/14 H04W88/08 (Advanced/Non-invention)

CPC: H04W72/0413 H04L5/0055 H04W88/08 H04L5/14 H04J11/00 H04L1/1861

US: 370/280 370/281 370/329



Family:

Publication number	Publication date	Application number	Application date
US2015245344 AA	20150827	US20130418306	20130731
US9544885 BB	20170110	US20130418306	20130731
WO14021631 A1	20140206	WO2013KR06890	20130731

Priority:

US20120677482P 20120731 US20120701731P 20120917 WO2013KR06890 20130731
US20130418306 20130731

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): AHN JOONKUI ; SEO DONGYOUN ; YANG SUCKCHEL ; YI YUNJUNG ; YOU HYANGSUN

Agent(s): DENTONS US LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** OF DEMODULATING DATA ON NEW TYPE OF CARRIER WAVE

Abstract: Source: US2015117345A [EN] A **method** of demodulating data according to an embodiment of the present invention is presented. The **method** of demodulating data may include: setting a terminal to be in a transmission mode of PDSCH to which transmission diversity is applied; receiving resource allocation information on the PDSCH by the terminal; **transmitting downlink (DL)** data onto the PDSCH to which the transmission diversity is applied, according to the resource allocation information; receiving, from a base station, information on the number of antenna ports used for receiving a reference signal that is used for demodulating the **DL** data; and receiving a reference signal used for demodulating the **DL** data. The reference signal may be generated based on the identifier of the terminal, and the number of antenna ports used for receiving the reference signal may be the same as the number of antenna ports used for receiving the PDSCH.

Classifications:

International (IPC 8-9): H04J11/00 H04L1/06 H04L27/26 H04L5/00

H04W72/04 (Advanced/Invention);

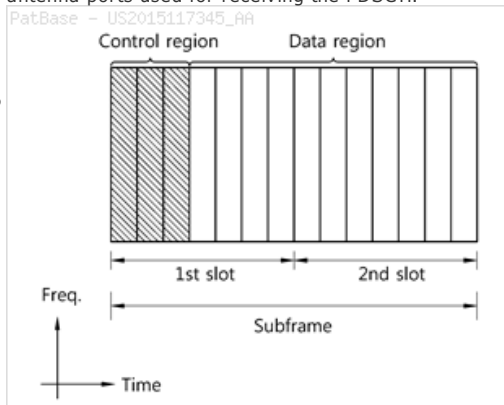
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CPC: H04J11/005 H04L5/0051 H04L5/005 H04W72/042 H04W72/0446

H04L5/0023 H04L5/0007 H04L5/0016 H04L5/0091 H04L1/0072

H04L5/001 H04L5/0048

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105122753 A	20151202	CN201480021907	20140417
IN02867MN2015 A	20160722	IN2015MN02867	20151005
US2015117345 AA	20150430	US20130396885	20130509
US2016037493 AA	20160204	US20140781874	20140417
US9515759 BB	20161206	US20130396885	20130509
US9860886 BB	20180102	US20140781874	20140417
WO13169050 A1	20131114	WO2013KR04115	20130509
WO14171758 A1	20141023	WO2014KR03348	20140417

Priority:

US20120645640P 20120511 US20130813145P 20130417 US20130396885 20130509
 WO2013KR04115 20130509 WO2014KR03348 20140417 US20140781874 20140417

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): KIM BONG HOE ; KIM BONGHOE ; SEO DONG YOUN ; SEO DONGYOUN ; YI YUN JUNG ; YI YUNJUNG

Agent(s): DENTONS US LLP; S AND IP PATENT AND LAW FIRM; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **DEVICE** FOR **TRANSMITTING** CONTROL INFORMATION IN A **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2013176982A [EN] The present invention relates to a **wireless communication system**. In more detail, in relation to a **method** for a terminal to **transmit** ACK/NACK in a **wireless communication system**, an ACK/NACK transmission **method** includes: receiving at least one Physical **Downlink** Shared Channel (PDSCH); **transmitting** at least one ACK/NACK corresponding to the at least one PDSCH through a plurality of Physical **Uplink** Control Channel (PUCCH) formats; and, when the at least one ACK/NACK is **transmitted** using a first PUCCH format, **transmitting** at least one ACK/NACK in an antenna port transmission mode set for a second PUCCH format.

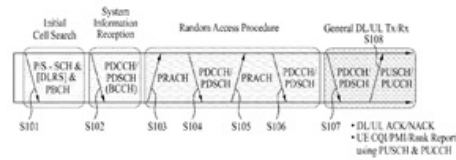
Classifications:

International (IPC 8-9): H04B7/04 H04L1/00 H04L1/16 H04L1/18 H04L27/26 H04L5/00 H04W72/02 H04W72/04 (Advanced/Invention); H04B7/04 H04B7/0413 H04L5/00 (Advanced/Non-invention)
CPC: H04W72/0413 H04B7/0413 H04L1/0073 H04L1/1861 H04L5/0023 H04L5/0053 H04L5/0055 H04L5/0094 H04L1/1657 H04W72/042

European: H04L1/18R11 H04L5/00C6 H04L5/00C6A T04L5/00A3C T04L5/00E2

US: 1/1 370/329

PatBase - US2013176982_AH



Family:

Publication number	Publication date	Application number	Application date
US2013176982 AA	20130711	US20110824281	20111011
US2015373696 AA	20151224	US20150836585	20150826
US2018020446 AA	20180118	US20170704915	20170914
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US9794917 BB	20171017	US20150836585	20150826
WO12050342 A2	20120419	WO2011KR07524	20111011
WO12050342 A3	20120614	WO2011KR07524	20111011

Priority:

US20100392390P 20101012	US20100411480P 20101109	US20110824281 20111011
WO2011KR07524 20111011	US20130824281 20130315	US20150836585 20150826
US20170704915 20170914		

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): CHUNG JAEHOON ; HAN SEUNGHEE ; KO HYUNSOO ; LEE HYUNWOO ; LEE MOONIL ; LG ELECTRONICS INC

Inventor(s): (std): CHUNG JAEHOON ; HAN SEUNGHEE ; KO HYUNSOO ; LEE HYUNWOO ; LEE MOONIL

Agent(s): LEE HONG DEGERMAN KANG AND WAIMEY; LEE HONG DEGERMAN KANG WAIMEY; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: RANDOM ACCESS CHANNEL PREAMBLE DETECTION

Abstract: Source: US2009191875A [EN] The present invention provides a **method** of and a **network** entity for processing a random access preamble. The **network** entity comprises a transceiver for receiving an random access preamble; and a **processor** for determining if the random access preamble is successfully detected, and for determining, in the case where the random access preamble is not successfully detected, if a combined preamble resulting from a combination of the random access preamble with a previous random access preamble received at the **network** entity prior to reception of the random access preamble and having an identical signature to the signature of the random access preamble, is successfully detected.

Classifications:

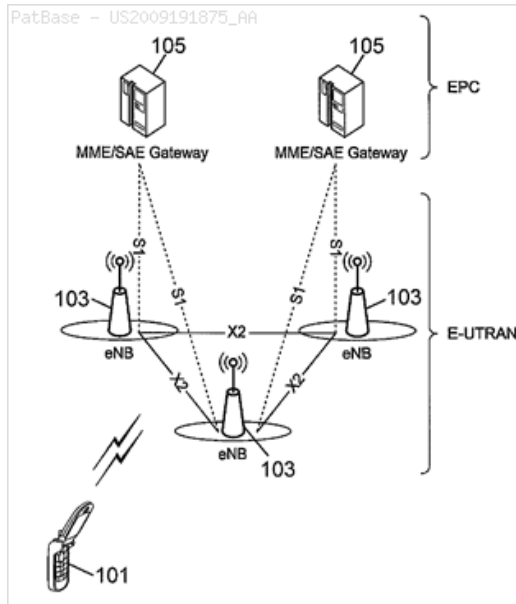
International (IPC 8-9): G06F11/00 H04B7/216 H04B7/26 H04J11/00 H04Q7/36 H04W36/00 H04W4/00 H04W48/08 H04W74/00 H04W74/08 (Advanced/Invention); H04J11/00 H04W74/08 (Advanced/Non-invention); H04B7/26 H04W36/00 H04W4/00 H04W48/00 H04W74/00 (Core/Invention)

International (IPC 1-7): H04Q7/36 H04W74/08

CPC: H04J11/0069 H04W74/002 H04W74/004 H04W74/0833 H04W74/0866

European: H04W74/00C H04W74/00C2 H04W74/08F T04J11/00J T04W74/08D

US: 370/230 370/252 370/310 370/328 370/328P 370/329 370/335 370/342 455/422.1 455/422.100S 455/436 455/436P



Family:

Publication number	Publication date	Application number	Application date
DE602008039527 D1	20150924	DE200860039527T	20080619
EP2145493 A2	20100120	EP20080766447	20080619
EP2145493 A4	20101020	EP20080766447	20080619
EP2145493 B1	20150812	EP20080766447	20080619
IN02588KN2010 A	20100924	IN2010KN02588	20100715
IN271479 B	20160226	IN2010KN02588	20100715
US2009191875 AA	20090730	US20090358984	20090123
US2010172299 AA	20100708	US20080664654	20080619
US8427971 BB	20130423	US20080664654	20080619
US8825050 BB	20140902	US20090358984	20090123
WO08156321 A2	20081224	WO2008KR03487	20080619
WO08156321 A3	20090226	WO2008KR03487	20080619
WO09093861 A1	20090730	WO2009KR00356	20090123

Priority:

US20070945071P 20070619	US20080023196P 20080124	US20080023196 20080124
EP20080766447 20080619	US20080664654 20080619	WO2008KR03487 20080619
US20090358984 20090123	WO2009KR00356 20090123	

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): FEUILLETTE REMI ; FISCHER PATRICK ; LG ELECTRONICS INC ; VUJCIC DRAGAN

Inventor(s): (std): FEUILLETTE REMI ; FISCHER PATRICK ; VUJCIC DRAGAN

Agent(s): CABINET PLASSERAUD; BIRCH STEWART KOLASCH AND BIRCH; LEE HONG DEGERMAN KANG AND WAIMEY; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL; KIM YONG IN

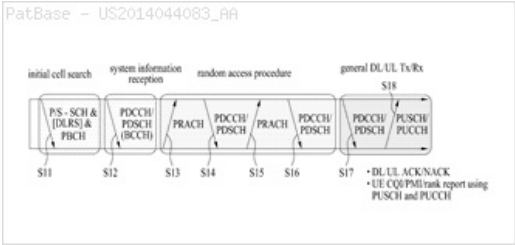
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Title: **METHOD** FOR **TRANSMITTING** CHANNEL STATE INFORMATION IN **WIRELESS** ACCESS **SYSTEM** AND TERMINAL THEREFOR

Abstract: Source: US2014044083A [EN] Disclosed is a **method** for **transmitting** channel state information (CSI) in a **wireless** access **system** supporting carrier aggregation/multiple cells and a terminal therefor. Specifically, the **method** comprises the steps of: if a collision occurs between starting points of periodic CSI reports for first and second cells, calculating the number of resource elements using the biggest bit size among CSI bit sizes for first and second cells; adjusting the bit of the CSI with the highest priority among the CSIs of the first and second cells to match the biggest bit size; **transmitting**, to the base station, the adjusted bits of the CSI with the highest priority, which have been mapped to the calculated resource element.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04J3/14 H04L1/00 H04L5/00 (Advanced/Invention)
CPC: H04L5/0064 H04L5/0057 H04L1/0026 H04L1/0028 H04L1/0073 H04L5/001 H04L5/0073
US: 370/329



Family:

Publication number	Publication date	Application number	Application date
DE602012016004 D1	20160504	DE201260016004T	20120425
EP2704342 A2	20140305	EP20120777780	20120425
EP2704342 A4	20141022	EP20120777780	20120425
EP2704342 B1	20160323	EP20120777780	20120425
US2014044083 AA	20140213	US20120112191	20120425
US9490959 BB	20161108	US20120112191	20120425
WO12148161 A2	20121101	WO2012KR03178	20120425
WO12148161 A3	20130117	WO2012KR03178	20120425

Priority:

US20110479363P 20110426 EP20120777780 20120425 WO2012KR03178 20120425
US20120112191 20120425

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO ; LG ELECTRONICS INC

Inventor(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO

Agent(s): TER MEER STEINMEISTER AND PARTNER PATENTANWALTE MBB; URNER PETER; TER MEER STEINMEISTER AND PARTNER; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ADAPTIVE CONTROL CHANNEL

Abstract: Source: US2014031031A [EN] A **wireless network** may implement a reduced bandwidth for control information **transmitted** and/or received on the **wireless network**. The reduced bandwidth may be used to avoid interference that may be detected from an in-band or adjacent channel. The reduced bandwidth may be used for transmission and/or reception of control information on a cellular or Wi-Fi channel. An eNB or an access point (AP) may signal to a **wireless transmit/receive unit (WTRU)** information associated with the reduced control channel, such as the power and/or the location of the channel in a frequency band. The control channel may be shifted to avoid a change in interference.

Classifications:

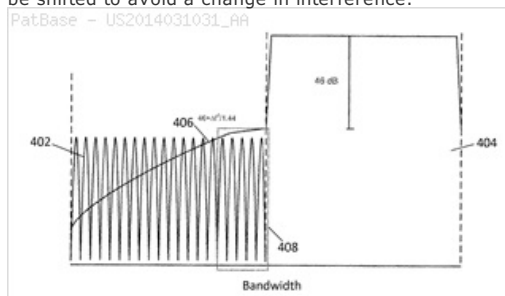
International (IPC 8-9): H04B15/00 H04L1/00 H04L5/00 H04W16/10 H04W16/14 H04W4/00 H04W72/00 H04W72/04

H04W72/08 (Advanced/Invention);

H04L1/18 H04W16/14 H04W28/06 (Advanced/Non-invention)

CPC: H04L1/1867 H04L5/0062 H04L5/0094 H04W16/14 H04W28/06 H04L1/0002 H04L5/0053 H04W72/082

US: 1/1 370/329 455/426.1

**Family:**

Publication number	Publication date	Application number	Application date
CN104186018 A	20141203	CN201380005286	20130111
EP2813121 A2	20141217	EP20130702131	20130111
TW201340741 A	20131001	TW20130101078	20130111
US2014031031 AA	20140130	US20130739922	20130111
US2015256314 AA	20150910	US20150718057	20150520
US9072107 BB	20150630	US20130739922	20130111
WO13106740 A2	20130718	WO2013US21279	20130111
WO13106740 A3	20130912	WO2013US21279	20130111

Priority:

US20120585587P 20120111 US20130739922 20130111 WO2013US21279 20130111
US20150718057 20150520

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

Assignee(s): (std): INTERDIGITAL PATENT HOLDINGS

Assignee(s): INTERDIGITAL PATENT HOLDINGS INC

Inventor(s): (std): DI GIROLAMO ROCCO ; FRED A MARTINO ; FRED A MARTINO M ; GAUVREAU JEAN LOUIS ; LAUGHLIN SCOTT ; RUDOLF MARIAN ; SYED KAMRAAN NASIM ; TOUAG ATHMANE ; YE CHUN XUAN ; YE CHUNXUAN

Agent(s): MEISSNER BOLTE AND PARTNER GBR; CONDO ROCCIA KOPTIW LLP; ROCCIA VINCENT J ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** CONTROL INFORMATION IN A **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2014334395A [EN] The invention relates to a **wireless communication system**, and more particularly, to a **method** and **apparatus** for **transmitting** control information. The **wireless communication system** may support carrier aggregation (CA). A **method** for **transmitting** control information to a base station by a terminal in a **wireless communication system** according to one aspect of the present invention comprises the steps of: receiving at least one of either a physical **downlink** control channel (PDCCH) or a physical **downlink** shared channel (PDSCH) from said base station via at least one serving cell provided on the terminal; and **transmitting**, to said base station, control information on the reception of said PDCCH or on the reception of said PDSCH indicated by the PDCCH. Said at least one serving cell may use a frequency division **duplex** (FDD) frame structure or a **time** division **duplex** (**TDD**) frame structure. Said control information may be **transmitted** using a control information **feedback** timing of a first serving cell determined in accordance with a preset criterion from said at least one serving cell.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04L1/18 H04L5/00 H04W72/04 (Advanced/Invention);

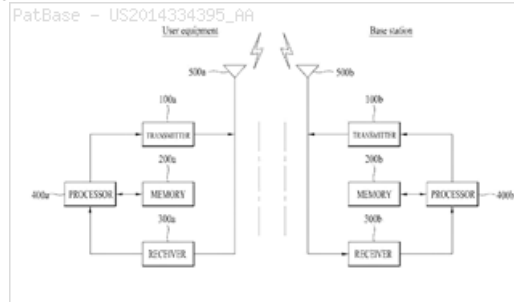
H04L1/00 H04L27/26 H04L5/00 H04L5/14 (Advanced/Non-invention)

CPC: H04W72/0413 H04L5/14 H04L5/0053 H04L1/0026 H04L1/1861

H04L5/001 H04L5/0055 H04L5/0057 H04L27/2633 H04L27/2636

H04L27/2644 H04L1/1671 H04L1/0067

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
US2014334395 AA	20141113	US20120117305	20120523
US9730198 BB	20170808	US20120117305	20120523
WO12161510 A2	20121129	WO2012KR04067	20120523
WO12161510 A3	20130321	WO2012KR04067	20120523

Priority:

US20110488802P 20110523 US20120117305 20120523 WO2012KR04067 20120523

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO ; LG ELECTRONICS INC

Inventor(s): (std): HAN SEUNGHEE ; KIM JINMIN ; LEE HYUNWOO

Agent(s): DENTONS US LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CONTROL SIGNALING IN LTE CARRIER AGGREGATION

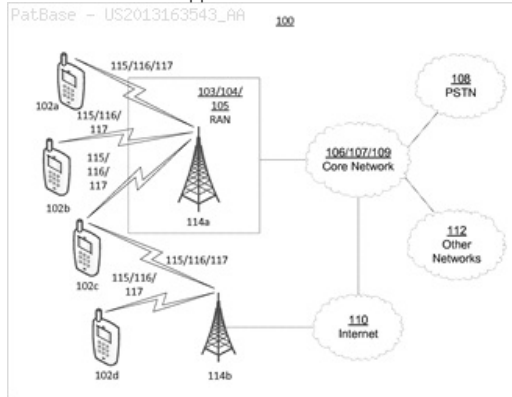
Abstract: Source: US2013163543A [EN] **Methods** and **devices** may be provided for aggregating component carriers in the licensed spectrum with at least one component carriers in the licensed exempt spectrum. Control information may be processed in a **wireless transmit/receive unit (WTRU)** while receiving and sending information on a primary component carrier (PCC) and a supplementary component carrier (SuppCC). A PCC subframe with a control portion and a data portion may be received. Resource assignment information associated with a **downlink** shared channel on the PCC may be embedded in the control portion of the subframe. Based on the resource assignment information on the PCC, resource assignment information associated with a **downlink** shared channel on the SuppCC may be identified in the data portion of the PCC subframe. A SuppCC subframe of the shared channel on the SuppCC may be processed as per the identified resource assignment information associated with the **downlink** shared channel on the SuppCC.

Classifications:

International (IPC 8-9): H04B7/26 H04L1/00 H04L5/00 H04W16/14 H04W28/02 H04W48/08 H04W72/04 H04W72/12 (Advanced/Invention); H04L5/00 (Advanced/Non-invention)

CPC: H04L5/0007 H04L5/0092 H04W72/04 H04B7/26 H04W72/00 H04W16/14 H04L5/0041 H04W72/042 H04W72/0406

US: 1/1 370/329

**Family:**

Publication number	Publication date	Application number	Application date
CN104012159 A	20140827	CN201280063994	20121221
EP2795981 A1	20141029	EP20120814102	20121221
JP2015505436 T2	20150219	JP20140548995T	20121221
JP5961282 B2	20160802	JP20140548995T	20121221
KR101643832 B1	20160728	KR20147020020	20121221
KR20140104498 A	20140828	KR20147020020	20121221
TW201336334 A	20130901	TW20120149265	20121222
TW201735694 A	20171001	TW20170106707	20121222
TWI580296 B	20170421	TW20120149265	20121222
US2013163543 AA	20130627	US20120726093	20121222
US2016249333 AA	20160825	US20160145450	20160503
US9363797 BB	20160607	US20120726093	20121222
WO13096928 A1	20130627	WO2012US71521	20121221

Priority:

US20110579645P 20111222 WO2012US71521 20121221 US20120726093 20121222
US20160145450 20160503

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

Assignee(s): (std): INTERDIGITAL PATENT HOLDINGS ; INTERDIGITAL PATENT HOLDINGS INC

Inventor(s): (std): BELURI MIHAELA C ; DAI YUYING ; DI GIROLAMO ROCCO ; DIGIROLAMO ROCCO ; FREDIA MARTINO ; FREDIA MARTINO M ; GAUVREAU JEAN LOUIS

Agent(s): ENGDAHL STEFAN; TANI AND ABE PC; CONDO ROCCIA KOPTIW LLP; ROCCIA VINCENT J

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: LOOP POWER CONTROLS FOR MULTI-CARRIER HIGH-SPEED **UPLINK** PACKET ACCESS

Abstract: Source: US2010238825A [EN] A **method** for **wireless communications** is provided. The **method** includes applying independent power controls to two or more carriers from a set of high speed packet access signals. The **method** includes monitoring power across the two or more carriers to determine power levels for the set of high speed packet access signals. The **method** also includes adjusting at least one of an open loop control, an inner loop control, or an outer loop control in view of the power levels for the set of packet access signals.

Classifications:

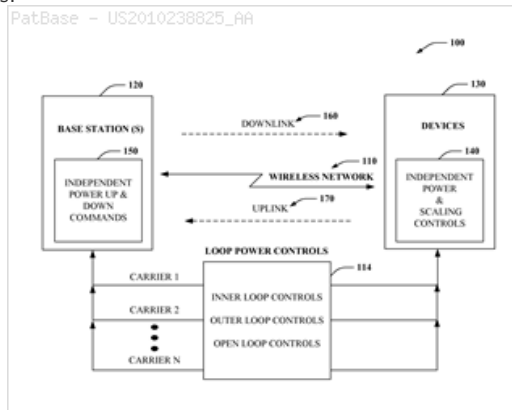
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International (IPC 1-7): H04W-052/04(2009.01) H04W-052/10(2009.01) H04W52/28 H04W52/34

CPC: H04L27/26 H04W52/10 H04W52/367 H04W52/06 H04W52/286 H04W52/12 H04W52/346 H04W52/42

European: H04W52/28P H04W52/34N T04W52/12 T04W52/42

US: 370/252 370/252P 370/329 370/329S 455/522



Family:

Publication number	Publication date	Application number	Application date
BRPI1009387 A2	20160308	BR2010PI09387	20100317
CA2754155 AA	20100923	CA20102754155	20100317
CA2754155 C	20160906	CA20102754155	20100317
CN102356676 A	20120215	CN201080012471	20100317
CN102356676 B	20150610	CN201080012471	20100317
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EP2409534 A1	20120125	EP20100713055	20100317
EP2409534 B1	20150415	EP20100713055	20100317
ES2541606 T3	20150722	ES20100713055T	20100317
HK1164606 A1	20151218	HK20120104646	20120511
IN06360CN2011 A	20121116	IN2011CN06360	20110906
JP2012521174 T2	20120910	JP20120500923T	20100317
JP5306536 B2	20131002	JP20120500923T	20100317
KR101326632 B1	20131120	KR20117024439	20100317
KR20110138385 A	20111227	KR20117024439	20100317
RU2011141828 A	20130427	RU20110141828	20100317
RU2495542 C2	20131010	RU20110141828	20100317
TH117992 A	20121127	TH20111002061	20100317
TW201136391 A	20111016	TW20100107935	20100317
US2010238825 AA	20100923	US20100724963	20100316
US8514794 BB	20130820	US20100724963	20100316
WO10107911 A1	20100923	WO2010US27661	20100317
ZA201107332 A	20120725	ZA20110007332	20111006

Priority:

US20090160902P 20090317 US20100724963 20100316 EP20100713055 20100317
WO2010US27661 20100317

Probable Assignee: QUALCOMM INC

Assignee(s): (std): AGARWAL RAVI ; BHARADWAJ ARJUN ; HOU JILEI ; QUALCOMM INC ; SAMBHWANI SHARAD DEEPAK ; ZHANG DANLU ; OZTURK OZCAN ; VITTHALADEVUNI PAVAN KUMAR

Assignee(s): QUALCOMM INC SAN DIEGO ; KVEHLKOMM INKORPOREJTED

Inventor(s): (std): AGARVAL RAVI ; AGARWAL RAVI ; ARJUN BHARADWAJ ; BHARADWAJ ARJUN ; BKHARADVADZH ARDZHUN ; CHZHAN DAN LU ; DANLU ZHANG ; DEEPAK SAMBHWANI SHARAD ; HOU JI LEI ; HOU JILEI ; JILEI HOU ; KHOU TSZILEHJ ; KUMAR VITTHALADEVUNI PAVAN ; OZCAN OZTURK ; OZTURK OZCAN ; OZTURK OZDZHAN ; RAVI AGARWAL ; SAMBHWANI SHARAD DEEPAK ; SAMBKHVANI SHARAD DIPAK ; VITTHALADEVUNI PAVAN KUMAR ; VITTKHALADEVUNI PAVAN KUMAR ; ZHANG DAN LU ; ZHANG DANLU

Inventor(s): SHARAD DEEPAK SAMBHWANI ; PAVAN KUMAR VITTHALADEVUNI

Agent(s): SMART AND BIGGAR; WAGNER AND GEYER PARTNERSCHAFT MBB PATENT U RECHTSANWAELTE; CARSTENS DIRK WILHELM; CARPINTERO MARIO; QUALCOMM INC; DARREN M; JUNEAU DARRELL SCOTT

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR **TRANSMITTING UPLINK** CONTROL INFORMATION IN **WIRELESS** ACCESS **SYSTEM** AND **APPARATUS** THEREFOR

Abstract: Source: US2016065345A [EN] The present invention provides a **method** for **transmitting uplink** control information (UCI) in a **wireless** access **system** supporting a multi-connection mode for a terminal to be connected to at least two small cells, and an **apparatus** therefor. In a **wireless** access **system** supporting a multi-connection mode, a **method** for enabling a terminal to **transmit** a confirmation response signal (ACK/NACK) according to an embodiment of the present invention includes the steps of: receiving an upper layer signal containing resource allotment information representing an allotted resource region in order to **transmit** a confirmation response signal; receiving a first physical **downlink** sharing channel (PDSCH) signal from a first small cell; receiving a second PDSCH signal from a second small cell; and **transmitting** a single confirmation response signal for the first PDSCH signal and the second PDSCH signal through the resource region represented by the resource allotment information. Here, the terminal maintains a plurality of connections with two or more small cells in the multi-connection mode, and the resource region may be allotted for the same **time** and frequency resource in both the first small cell and the second small cell.

Classifications:

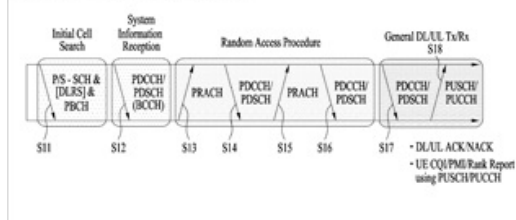
International (IPC 8-9): H04B7/26 H04J11/00 H04L5/00 H04W28/04 H04W72/04 (Advanced/Invention)

CPC: H04W72/044 H04W72/0406 H04L5/0055 H04L5/001

H04L5/0023 H04L5/0035 H04L5/0094

US: 370/330

PatBase - US2016065345_AA



Family:

Publication number	Publication date	Application number	Application date
CN105122676 A	20151202	CN201480019758	20140404
EP2983306 A1	20160210	EP20140778307	20140404
EP2983306 A4	20161012	EP20140778307	20140404
JP2016519890 T2	20160707	JP20160506246T	20140404
US2016065345 AA	20160303	US20140779205	20140404
US9794046 BB	20171017	US20140779205	20140404
WO14163429 A1	20141009	WO2014KR02925	20140404

Priority:

US20130808639P 20130405 US20130809879P 20130409 US20130819651P 20130506
 WO2014KR02925 20140404 US20140779205 20140404 US20140808639P 20140405

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): AHN JOON KUI ; AHN JOONKUI ; KIM BONG HOE ; KIM BONGHOE ; SEO DONG YOUN ; SEO DONGYOUN ; YANG SUCK CHEL ; YANG SUCKCHEL

Agent(s): CABINET PLASSERAUD; AOKI ATSUSHI; TSURUTA JUNICHI; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **DEVICE** FOR **TRANSMITTING** CHANNEL STATUS INFORMATION IN **WIRELESS** ACCESS **SYSTEM**

Abstract: Source: US2016065343A [EN] The present invention provides **methods** for **transmitting** channel status information (CSI) in a **wireless** access **system** that supports a multi-connection mode in which a terminal is connected to two or more small cells, and **devices** for supporting the same. A **method** by which a terminal reports CSI in a **wireless** access **system** that supports a multi-connection mode, according to one embodiment of the present invention, comprises the steps of: receiving a first physical **downlink** control channel (PDCCH) signal including first resource allocation information from a first small cell which is in a multi-connection mode state; receiving a second PDCCH signal including second resource allocation information from a second small cell which is in a multi-connection mode state; and reporting the CSI on the basis of the first resource allocation information and the second resource allocation information. At this point, the terminal maintains a plurality of connections with two or more small cells including the first small cell and the second small cell in a multi-connection mode, and the first small cell and the second small cell are arranged at different physical positions and can be connected to each other through an abnormal backhaul link.

Classifications:

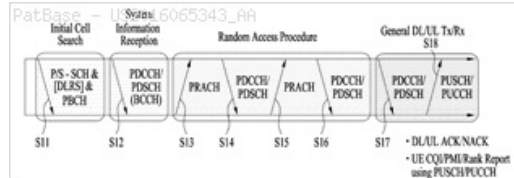
International (IPC 8-9): H04B7/26 H04J11/00 H04L5/00 H04W24/10

H04W4/00 H04W72/04 H04W72/12 H04W76/04 (Advanced/Invention)

CPC: H04W72/0406 H04W76/04 H04W72/12 H04L5/0053

H04J11/0053 H04L5/001 H04L5/0035 H04L5/0057 H04W76/20

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105191176 A	20151223	CN201480020115	20140409
EP2985927 A1	20160217	EP20140783347	20140409
EP2985927 A4	20161221	EP20140783347	20140409
JP2016514937 T2	20160523	JP20160507883T	20140409
US2016065343 AA	20160303	US20140779312	20140409
US9794043 BB	20171017	US20140779312	20140409
WO14168410 A1	20141016	WO2014KR03076	20140409

Priority:

US20130810229P 20130409

US20140779312 20140409

WO2014KR03076 20140409

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): SEO DONGYOUN ; KIM KIJUN ; KIM BONGHOE ; SEO DONG YOUN ; KIM KI JUN ; KIM BONG HOE

Agent(s): CABINET PLASSERAUD; LEE HONG DEGERMAN KANG AND WAIMEY PC; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR **TRANSMITTING** CONTROL INFORMATION IN **WIRELESS COMMUNICATION SYSTEM** AND **DEVICE** THEREFOR

Abstract: Source: US2014029573A [EN] The present invention relates to a **wireless communication system**, more specifically to a **method** for **transmitting** control information and a **device** therefor. The **wireless communication system** can support carrier aggregation. The present invention relates to a **method** for **transmitting** information from a terminal to a base station in a **wireless communication system**, which includes a step for receiving first information for cross carrier scheduling through at least one primary cell among serving cells formed in a terminal from the base station, and a step for **transmitting** second information about a secondary cell related to at least one first information among serving cells to the base station through an **uplink** resource of the primary cell.

Classifications:

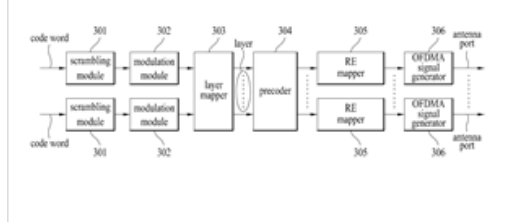
International (IPC 8-9): H04B7/26 H04J11/00 H04W36/06

H04W36/08 H04W72/12 (Advanced/Invention)

CPC: H04W72/1289 H04L5/0053 H04W72/1278 H04W36/08

US: 1/1 370/331

PatBase - US2014029573_AA



Family:

Publication number	Publication date	Application number	Application date
EP2701320 A2	20140226	EP20120773941	20120419
EP2701320 A4	20150311	EP20120773941	20120419
KR20140012676 A	20140203	KR20137024585	20120419
US2014029573 AA	20140130	US20120005959	20120419
US9198101 BB	20151124	US20120005959	20120419
WO12144823 A2	20121026	WO2012KR03005	20120419
WO12144823 A3	20130117	WO2012KR03005	20120419

Priority:

US20110477166P 20110419 US20120005959 20120419 WO2012KR03005 20120419

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): KIM HAKSEONG ; LEE SEUNGMIN ; LG ELECTRONICS INC ; SEO HANBYUL

Inventor(s): (std): KIM HAK SEONG ; KIM HAKSEONG ; LEE SEUNG MIN ; LEE SEUNGMIN ; SEO HAN BYUL ; SEO HANBYUL

Agent(s): FRENKEL MATTHIAS ALEXANDER; BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHODS** AND **DEVICES** FOR **TRANSMITTING** SCHEDULING **REQUEST** IN **WIRELESS** ACCESS **SYSTEM**

Abstract: Source: US2016073394A [EN] The present invention provides **methods** for **transmitting** an RS in a **wireless** access **system** supporting a multiple connection mode, in which **user** equipment is connected to two or more small cells, and **devices** supporting same. According to one embodiment of the present invention, a **method** for **user** equipment **transmitting** a scheduling **request** (SR) in the **wireless** access **system** supporting the multiple connection mode, comprises the steps of: receiving, from a first small cell in the multiple connection mode, an upper layer signal comprising SR parameters for **transmitting** the SR; generating the SR based on the SR parameters; and **transmitting** the SR by using a physical **uplink** control channel (PUCCH) signal, wherein the SR parameters are pre-established through negotiation with the first small cell and a second small cell in the multiple connection mode, the **user** equipment in the multiple connection mode maintains connection with the two or more small cells including the first small cell and the second small cell, and wherein the first small cell and the second small cell can be mutually connected through a non-ideal backhaul link.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04L5/00 H04W4/00

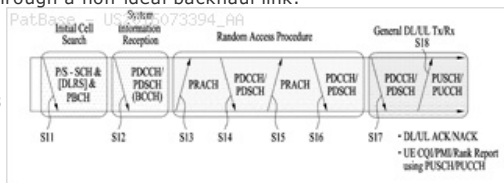
H04W72/04 H04W72/12 H04W72/14 (Advanced/Invention);

H04L5/00 (Advanced/Non-invention)

CPC: H04W72/0413 H04W72/14 H04L5/0055 H04L5/001 H04J11/0053

H04L5/0053 H04W72/1278

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105122704 A	20151202	CN201480021783	20140418
CN105122704 B	20180223	CN201480021783	20140418
IN02866MN2015 A	20160722	IN2015MN02866	20151005
US2016073394 AA	20160310	US20140779287	20140418
US9801164 BB	20171024	US20140779287	20140418
WO14171794 A1	20141023	WO2014KR03430	20140418

Priority:

US20130813189P 20130418

US20140779287 20140418

WO2014KR03430 20140418

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): AHN JOON KUI ; AHN JOONKUI ; KIM BONG HOE ; KIM BONGHOE ; SEO DONG YOUN ; SEO DONGYOUN

Agent(s): LEE HONG DEGERMAN KANG WAIMEY; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **USER DEVICE** FOR RECEIVING **UPLINK** CONTROL INFORMATION, AND **METHOD** AND BASE STATION FOR **TRANSMITTING UPLINK** INFORMATION

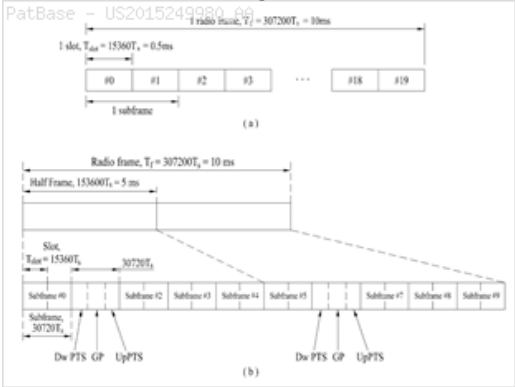
Abstract: Source: US2015249980A [EN] The present invention determines a PUCCH resource based on which serving cell ACK/NACK information is related to, when a **user device** set as a plurality of serving cells **transmits** the ACK/NACK information. Moreover, if a PUCCH transmission **time** matches with a PUSCH transmission **time**, the present invention does not piggy back ACK/NACK information to PUSCH but **transmits** the ACK/NACK information through PUCCH.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04L1/18 H04L5/00 H04W4/00 H04W72/04 (Advanced/Invention)

CPC: H04W72/0413 H04L5/0055 H04L1/1861 H04L5/001

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
US2015249980 AA	20150903	US20130427191	20131010
US9930646 BB	20180327	US20130427191	20131010
WO14058236 A1	20140417	WO2013KR09048	20131010

Priority:

US20120712229P 20121010 US20130810226P 20130409 US20130427191 20131010
WO2013KR09048 20131010

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): KIM BONGHOE ; YANG SUKCHEL ; YI YUNJUNG ; YOU HYANGSUN

Agent(s): DENTONS US LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: OPTIMIZED **UPLINK** CONTROL SIGNALING FOR EXTENDED BANDWIDTH

Abstract: Source: US2012093097A [EN] According to an embodiment a **user** equipment UE **transmits uplink** control signals using one or more chunks of **uplink** frequency spectrum that contain a simultaneous **uplink** shared channel; and for the case where there is no simultaneous **uplink** shared channel available, the UE **transmits uplink** control signals using only a single chunk of **uplink** frequency spectrum. In various embodiments the control signals are ACK/NACK control signals **transmitted** on an **uplink** control channel, the **uplink** shared channel comprises a chunk-specific **uplink** control channel, and each chunk comprises a component carrier of a LTE-A **system**. **Downlink** assignment index bits may be included in a **downlink** grant to the UE which indicates how many chunks in total are allocated in a current **downlink** subframe. The UE can also use ACK/NACK control signal bundling over chunks in addition to either or both of chunk- specific ACK/NACK control signals or ACK/NAK control signal **multiplexing**.

Classifications:

International (IPC 8-9): H04L12/66 H04L5/00 H04W72/04

H04W74/04 (Advanced/Invention);

H04W72/04 (Advanced/Non-invention);

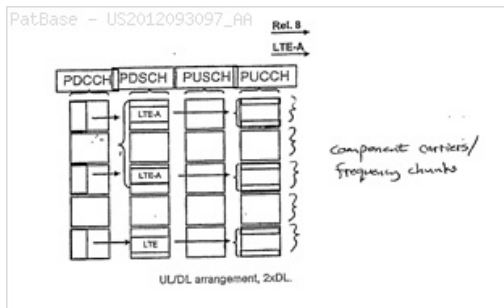
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International (IPC 1-7): H04W72/04

CPC: H04L5/0055 H04L5/001 H04L5/0053 H04L5/0092 H04W72/0413 H04W72/042

European: H04L5/00A2A11 H04L5/00C6 H04L5/00C6A H04L5/00E1 H04W72/04 T04W72/04F4

US: 1/1 370/329 370/329P 370/463 370/463S



Family:

Publication number	Publication date	Application number	Application date
CN102224758 A	20111019	CN200980143463	20090923
CN102224758 B	20150204	CN200980143463	20090923
CY1119538 T1	20180307	CY20161100840T	20160825
DE602009039504 D1	20160811	DE200960039504T	20090923
DK2329675 T3	20160905	DK20090815741T	20090923
EP2329675 A1	20110608	EP20090815741	20090923
EP2329675 A4	20120912	EP20090815741	20090923
EP2329675 B1	20160629	EP20090815741	20090923
HU029054 T2	20170228	HU20090815741T	20090923
IN01901CN2011 A	20120203	IN2011CN01901	20110318
LT2329675 T	20160912	LT20090815741T	20090923
PL2329675 T3	20161130	PL20090815741T	20090923
PT2329675 T	20160818	PT20090815741T	20090923
SI2329675 T1	20161028	SI20090031508	20090923
US2012093097 AA	20120419	US20090120475	20090923
US9136998 BB	20150915	US20090120475	20090923
VN14689 A1	20151125	VN20110000858	20090923
WO10035117 A1	20100401	WO2009IB06945	20090923

Priority:

US20080194042P 20080923

EP20090815741 20090923

WO2009IB06945 20090923

US20090120475 20090923

Probable Assignee: NOKIA TECHNOLOGIES OY

Assignee(s): (std): NOKIA CORP ; NOKIA TECH OY ; PAJUKOSKI KARI ; TIIROLA ESA ; NOKIA TECHNOLOGIES OY ; TIRROLA ESA ; CHE XIANG GUANG

Inventor(s): (std): CHE XIANG GUANG ; ESA TIIROLA ; GUANG CHE XIANG ; KARI PAJUKOSKI ; PAJUKOSKI KARI ; TIIROLA ESA ; XIANG GUANG CHE ; TIRROLA ESA

Agent(s): AARNIO ARI ANTERO; NOKIA CORP; SQUIRE PATTON BOGGS US LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: DYNAMIC CONFIGURATION OF SUBFRAMES IN A RADIO COMMUNICATIONS SYSTEM

Abstract: Source: US2015043392A [EN] The technology disclosed provides the ability for a subframe to be dynamically configured in time division duplex (TDD) communications between a UE radio terminal and a radio network node. A frame structure includes one or more subframes preconfigured as a downlink subframe, one or more subframes preconfigured as an uplink subframe, and one or more dynamically configurable subframes. Each dynamically configurable subframe includes a guard time period and at least a downlink part for transporting a dynamically configurable amount of downlink information, and in some embodiments, uplink information. A configuration for dynamically configurable subframes is determined for transmission and/or reception between the UE radio terminal and the radio network node.

Classifications:

International (IPC 8-9): H04B7/26 H04J3/00 H04L5/14 H04W28/06

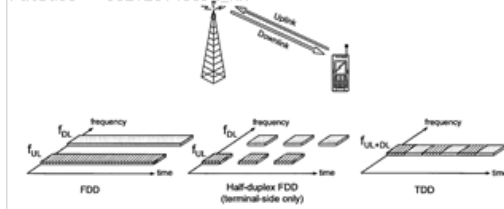
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CPC: H04W72/1205 H04L5/1469 H04B7/2656 H04B7/2612

H04W72/0446

US: 370/280

PatBase - US2015043392-AA



Family:

Publication number	Publication date	Application number	Application date
EP2829139 A1	20150128	EP20120712419	20120322
IN01972KN2014 A	20151030	IN2014KN01972	20140918
JP2015518667 T2	20150702	JP20150501619T	20120322
KR20140136923 A	20141201	KR20147022224	20120322
US2015043392 AA	20150212	US20120385536	20120322
US9532369 BB	20161227	US20120385536	20120322
WO13141770 A1	20130926	WO2012SE50322	20120322

Priority:

WO2012SE50322 20120322

Probable Assignee: TELEFONAKTIEBOLAGET L M ERICSSON PUBL

Assignee(s): (std): ASTELY DAVID ; ERICSSON TELEFON AB L M ; ERIKSSON ERIK ; SUSITAIVAL RIIKKA ; TELEFONAKTIEBOLAGET L M ERICSSON

Assignee(s): TELEFONAKTIEBOLAGET L M ERICSSON PUBL ; TELEFONAKTIEBOLAGET LM ERICSSON PUBL ; OY L M ERICSSON AB

Inventor(s): (std): ASTELY DAVID ; ERIKSSON ERIK ; SUSITAIVAL RIIKKA

Agent(s): KUEHN FRIEDRICH HEINRICH; HAGIWARA YASUSHI; KAMEYA YOSHIKI; KANEMOTO TETSUO; PATENTS ON DEMAND PA; SCOTT M; BRIAN K; HASSELGREN JOAKIM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHODS** AND **DEVICES** FOR **TRANSMITTING** SOUNDING REFERENCE SIGNAL IN **WIRELESS** ACCESS **SYSTEM**

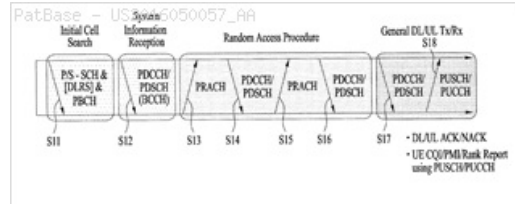
Abstract: Source: US2016050057A [EN] The present invention provides **methods** for **transmitting** a sounding reference signal (SRS) in a **wireless** access **system** supporting a multiple connection mode, in which **user** equipment is connected to two or more small cells, and **devices** for supporting same. According to one embodiment of the present invention, the **method** for the **user** equipment **transmitting** the SRS in the **wireless** access **system** supporting the multiple connection mode, comprises the steps of: receiving, from a first small cell in the multiple connection mode, a control signal **requesting** an aperiodic SRS transmission; and confirming whether a first SRS resource region for the aperiodic SRS transmission to the first small cell and a second SRS resource region for a periodic SRS transmission to a second small cell in the multiple connection mode overlap, wherein the **user** equipment in the multiple connection mode maintains multiple connections with the two or more small cells, including the first small cell and the second small cell, and wherein the first small cell and the second small cell can be mutually connected through a non-ideal backhaul link.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00
H04L5/00 (Advanced/Invention)

CPC: H04L5/0048 H04J11/0053 H04L5/001 H04L5/0053

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105122679 A	20151202	CN201480021449	20140415
IN03219MN2015 A	20160722	IN2015MN03219	20151116
US2016050057 AA	20160218	US20140782234	20140415
US9935751 BB	20180403	US20140782234	20140415
WO14171700 A1	20141023	WO2014KR03240	20140415

Priority:

US20130811806P 20130415 US20140782234 20140415 WO2014KR03240 20140415

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): KIM BONG HOE ; KIM BONGHOE ; SEO DONG YOUN ; SEO DONGYOUN

Agent(s): BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

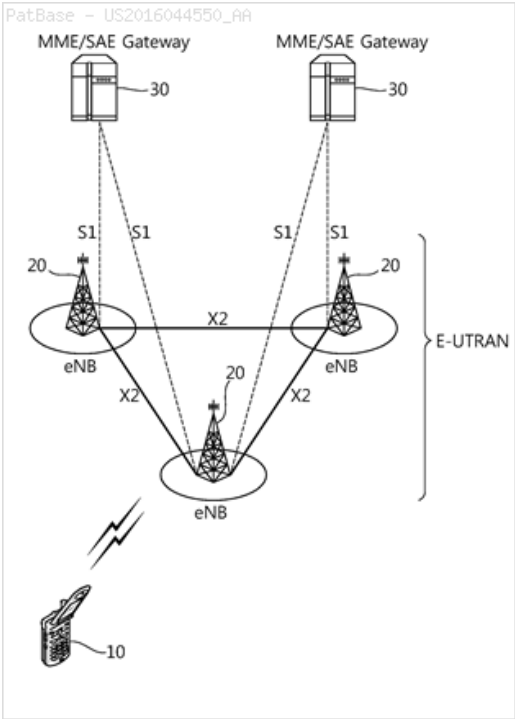
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Title: **METHOD** AND **APPARATUS** FOR APPLYING ASSISTANCE INFORMATION FOR TRAFFIC STEERING IN **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2016044550A [EN] A **method** and **apparatus** for applying assistance information for traffic steering between a 3rd generation partnership project (3GPP) access **network** and a non-3GPP access **network** in a **wireless communication system** is provided. A **user** equipment (UE) receives assistance information for traffic steering through a dedicated signaling from an eNodeB (eNB), and starts a timer upon entering an idle mode. The UE applies the assistance information received through the dedicated signaling until the timer expires. After the timer expires, the UE applies assistance information received through a broadcast signaling.

Classifications:

International (ipc 8-9): H04B7/26 H04W36/00 H04W36/08
H04W48/12 H04W48/18 H04W76/04 H04W88/06 (Advanced/Invention);
H04W48/08 (Advanced/Non-invention)
CPC: H04W36/0066 H04W36/08 H04W48/08 H04W76/046
H04W76/27
US: 370/331



Family:

Publication number	Publication date	Application number	Application date
CN105122678 A	20151202	CN201480020910	20140410
EP2984771 A1	20160217	EP20140782593	20140410
EP2984771 A4	20161130	EP20140782593	20140410
ID201605604 A	20161014	ID2015P0006980	20140410
IN03485KN2015 A	20160318	IN2015KN03485	20151016
JP2016521495 T2	20160721	JP20160507890T	20140410
JP6074109 B2	20170201	JP20160507890T	20140410
MX2015014232 A1	20160301	MX20150014232	20140410
MX349791 B	20170811	MX20150014232	20140410
US2016044550 AA	20160211	US20140780459	20140410
US9894569 BB	20180213	US20140780459	20140410
WO14168427 A1	20141016	WO2014KR03104	20140410

Priority:

US20130811124P 20130412 US20130867617P 20130820 WO2014KR03104 20140410
US20140780459 20140410

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): JAEWOOK LEE ; SANGWON KIM ; SUNGHOON JUNG ; LEE JAEWOOK ; KIM SANGWON ; JUNG SUNGHOON ; LEE JAE WOOK ; KIM SANG WON ; JUNG SUNG HOON

Agent(s): FRENKEL MATTHIAS ALEXANDER; FERDY MAULANA LUBIS ST MM; AOKI ATSUSHI; TSURUTA JUNICHI; LEE HONG DEGERMAN KANG AND WAIMEY; S AND IP PATENT AND LAW FIRM

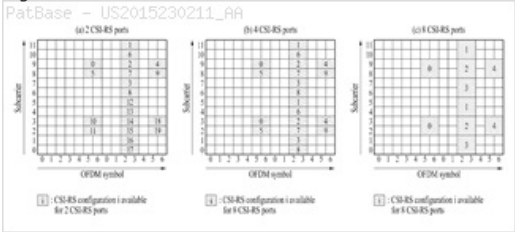
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** FOR RECEIVING **DOWNLINK** SIGNAL, AND **USER DEVICE**; AND **METHOD** FOR **TRANSMITTING DOWNLINK** SIGNAL, AND BASE STATION

Abstract: Source: US2015230211A [EN] In the present invention, a demodulation reference signal is **transmitted** using a plurality of settings in which demodulation reference signals occupy different positions in at least a density or **time**-frequency resource region of the demodulation reference signals. A base station can **transmit**, to the **user device**, information indicating a setting related to a **downlink** signal or a setting related to an **uplink** signal from among the plurality of settings, and the **user device** can receive the demodulation reference signal with the **downlink** signal or **transmit** the demodulation reference signal with the **uplink** signal according to the indicated setting.

Classifications:

International (IPC 8-9): H04B7/155 H04L27/26 H04L5/00 H04W28/18 H04W48/00 H04W72/04 H04W72/12 (Advanced/Invention)
CPC: H04L5/0051 H04L5/0007 H04W72/044 H04L5/0005 H04L5/001 H04L5/0048 H04W28/18 H04W48/00 H04W72/04 H04W72/0406 H04W72/042 H04W72/1278
US: 370/330



Family:

Publication number	Publication date	Application number	Application date
US2015230211 AA	20150813	US20130423948	20130925
US9609647 BB	20170328	US20130423948	20130925
WO14051322 A1	20140403	WO2013KR08566	20130925

Priority:

US20120705152P 20120925	US20120732867P 20121203	US20130769132P 20130225
US20130812209P 20130415	WO2013KR08566 20130925	US20130423948 20130925

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Agent(s): DENTONS US LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **USER** EQUIPMENT FOR REPORTING DEMODULATION REFERENCE SIGNAL INFORMATION AND **METHOD** AND BASE STATION FOR RECEIVING DEMODULATION REFERENCE SIGNAL INFORMATION

Abstract: Source: US2015373694A [EN] The present invention provides a **method** and a **user** equipment for reporting a demodulation reference signal pattern preferred by the **user** equipment among demodulation reference signal patterns of which locations of demodulation reference signals, demodulation reference signal densities and the like are defined differently within a predetermined **time**-frequency resource region, and a **method** and a base station for receiving the report of the preferred demodulation reference signal pattern.

Classifications:

International (IPC 8-9): H04J11/00 H04L5/00 H04W24/08
H04W24/10 H04W72/04 (Advanced/Invention);
H04W88/02 (Advanced/Non-invention)
CPC: H04W72/0413 H04W24/10 H04W24/08 H04L5/0048 H04W88/02
H04L5/001 H04L5/0023 H04L5/0035 H04L5/0051 H04L5/0057
H04L5/0094
US: 370/329



Family:

Publication number	Publication date	Application number	Application date
US2015373694 AA	20151224	US20140766721	20140210
US9936486 BB	20180403	US20140766721	20140210
WO14123398 A1	20140814	WO2014KR01086	20140210

Priority:

US20130762328P 20130208 US20130766120P 20130218 WO2014KR01086 20140210
US20140766721 20140210

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **APPARATUS** FOR **TRANSMITTING** AND RECEIVING **UPLINK** CONTROL INFORMATION IN RADIO ACCESS **SYSTEM**

Abstract: Source: US2014241298A [EN] A **method** and **apparatus** for **transmitting** and receiving **uplink** control information (UCI) in a radio access **system** supporting an enhanced physical **downlink** control channel (e-PDCCH) is disclosed. The **method** includes **transmitting downlink** control information (DCI) including offset information for determining resources for **transmitting** a physical **uplink** control channel (PUCCH) via the e-PDCCH, and receiving the UCI using **uplink** resources according to a resource index value for **transmitting** the PUCCH. The resource index value is calculated using an index value of a control channel element (CCE) comprising the e-PDCCH and the offset information.

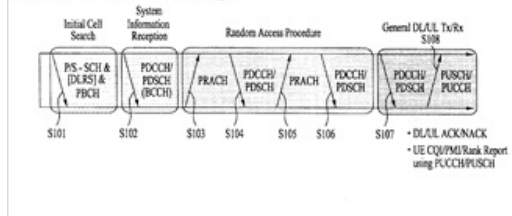
Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04L1/00 H04L1/18 H04L25/03 H04L5/00 H04W72/04 (Advanced/Invention)

CPC: H04W72/0413 H04W72/042 H04L5/0055 H04L1/0077 H04L1/1854 H04L1/1861 H04L5/001 H04L5/0048 H04L5/0053 H04L25/03929

US: 370/329

PatBase - US2014241298_AA



Family:

Publication number	Publication date	Application number	Application date
US2014241298 AA	20140828	US20120346589	20120926
US9497741 BB	20161115	US20120346589	20120926
WO13048114 A2	20130404	WO2012KR07760	20120926
WO13048114 A3	20130523	WO2012KR07760	20120926

Priority:

US20110538941P 20110926 US20120346589 20120926 WO2012KR07760 20120926

Probable Assignee: LG ELECTRONICS INC

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Agent(s): DENTONS US LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SCHEDULING AHEAD FOR IMPROVING DATA TRANSMISSION IN CASE OF MEASUREMENT

Abstract: Source: US2010290420A [EN] An approach is provided for scheduling **communication** resources to minimize the effects of a measurement gap. The timing between a resource allocation grant for a **communication** link, corresponding data transmission, and associated error control transmissions is delayed to avoid **transmitting** data to or receiving data from a **user** equipment during a measurement gap.

Classifications:

International (IPC 8-9): H04L5/00 H04W36/00 H04W72/04

H04W72/12 (Advanced/Invention);

H04W24/10 H04W36/00 H04W72/04 (Advanced/Non-invention);

H04L5/00 H04W72/00 (Core/Invention);

H04W36/00 (Core/Non-invention)

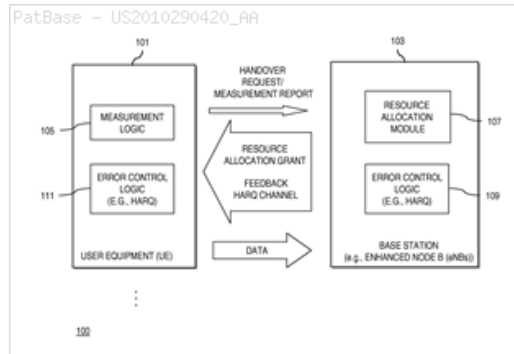
CPC: H04W72/1205 H04W72/04 H04L5/0044 H04L5/006 H04W24/10

H04W36/0088 H04W72/1268

European: H04L5/00C4 H04L5/00C7A H04W72/12B T04W24/10

T04W36/00P8C T04W72/04 T04W72/12D2

US: 370/328 370/329 370/329P 370/338



Family:

Publication number	Publication date	Application number	Application date
DE602009017398 D1	20130919	DE200960017398T	20090109
EP2243329 A1	20101027	EP20090702918	20090109
EP2243329 B1	20130724	EP20090702918	20090109
US2010290420 AA	20101118	US20090812594	20090109
US8929347 BB	20150106	US20090812594	20090109
WO09090583 A1	20090723	WO2009IB50092	20090109

Priority:

US20080020477 20080111 US20080020477P 20080111 EP20090702918 20090109
WO2009IB50092 20090109 US20090812594 20090109

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Inventor(s): (std): DALSGAARD LARS ; FREDERIKSEN FRANK ; KOLDING TROELS ; KOLDING TROELS EMIL

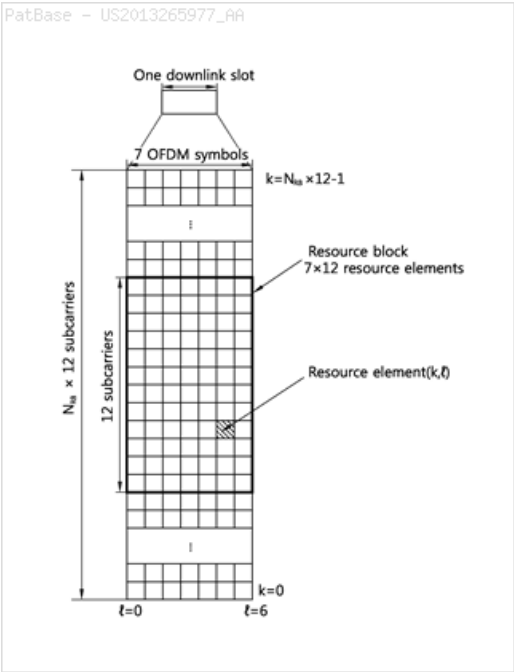
Agent(s): TOGNETTY VIRPI MARIA; NOKIA INC; HARRINGTON AND SMITH; DITTHAVONG PHOUPHANOMKETH ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD AND APPARATUS FOR TRANSMITTING** APERIODIC SOUNDING REFERENCE SIGNAL IN **WIRELESS COMMUNICATION SYSTEM**

Abstract: Source: US2013265977A [EN] Provided are a **method** and an **apparatus** for **transmitting** an aperiodic sounding reference signal (SRS) in a **wireless communication system**. A terminal receives from a base station a triggering signal for triggering the transmission of the aperiodic SRS and the number of transmissions of the aperiodic SRS, and **transmits** the aperiodic SRS to the base station the number of **times** equal to the number of transmissions, using a plurality of subframes, on the basis of the triggering signal.

Classifications:
International (ipc 8-9): H04B7/26 H04J11/00 H04L25/02 H04L5/00 H04W4/00 H04W72/04 (Advanced/Invention)
CPC: H04L5/0051 H04L5/0078 H04L5/0091 H04L25/0224 H04W72/042
European: H04L5/00C5B T04L5/00C8 T04L5/00E
US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
US2013265977 AA	20131010	US20110995008	20111216
US2013265978 AA	20131010	US20110995043	20111219
US9210001 BB	20151208	US20110995008	20111216
US9264262 BB	20160216	US20110995043	20111219
WO12081932 A2	20120621	WO2011KR09718	20111216
WO12081932 A3	20120823	WO2011KR09718	20111216
WO12081948 A2	20120621	WO2011KR09766	20111219
WO12081948 A3	20120823	WO2011KR09766	20111219

Priority:
US20100424060P 20101217 US20110995008 20111216 WO2011KR09718 20111216
WO2011KR09766 20111219 US20110995043 20111219

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Inventor(s): (std): CHUNG JAE HOON ; NOH MIN SEOK
Agent(s): BIRCH STEWART KOLASCH AND BIRCH LLP; YANG MOON OCK
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHOD** AND **USER** EQUIPMENT FOR PERFORMING RADIO RESOURCE MANAGEMENT, AND **METHOD** AND BASE STATION FOR **REQUESTING** RADIO RESOURCE MANAGEMENT

Abstract: Source: US2015139113A [EN] The present invention provides a **method** and **user** equipment for performing radio resource management. The **user** equipment receives a **request** for radio resource management for a cell, and performs radio resource management for the cell based on said **request** for radio resource management. The **request** for radio resource management includes information indicating the type of reference signal to be used in the radio resource management.

Classifications:

International (IPC 8-9): H04L5/00 H04W72/00

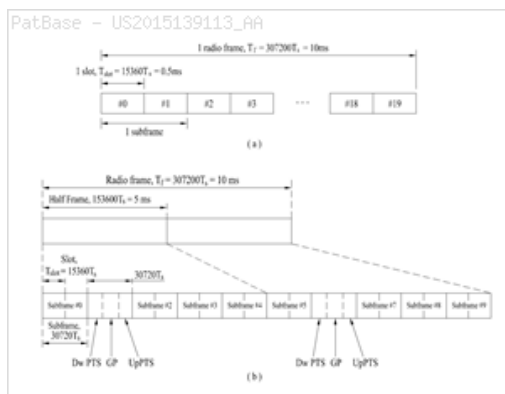
H04W72/04 (Advanced/Invention);

H04W72/04 (Advanced/Non-invention)

CPC: H04L5/0048 H04L5/003 H04L5/0053 H04W72/042

H04W56/0015

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
KR20150058104 A	20150528	KR20147037004	20130626
US2015139113 AA	20150521	US20130411280	20130626
US9425935 BB	20160823	US20130411280	20130626
WO14003432 A1	20140103	WO2013KR05641	20130626

Priority:

US20120664162P 20120626 US20130411280 20130626 WO2013KR05641 20130626

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Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): YOU HYANGSUN ; YI YUNJUNG ; YANG SUCKCHEL ; AHN JOONKUI ; YOU HYANG SUN ; YI YUN JUNG ; YANG SUCK CHEL ; AHN JOON KUI

Agent(s): BIRCH STEWART KOLASCH AND BIRCH LLP; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Search query (4): [SP]: flexible multiplexing and feedback for variable transmission time intervals methods, systems, and devices for wireless communication are described. a base station may employ a multiplexing configuration based on latency and efficiency considerations. the base station may transmit a resource grant, a signal indicating the length of a downlink (dl) transmission time interval (tti), and a signal indicating the length of a subsequent uplink (ul) tti to one or more user equipment (ues). the base station may dynamically select a new multiplexing configuration by, for example, setting the length of an ul tti to zero or assigning multiple ues resources in the same dl tti. latency may also be reduced by employing block feedback, such as block hybrid automatic repeat request (harq) feedback. a ue may determine and transmit harq feedback for each transport block (tb) of a set of tbs, which may be based on a time duration of a downlink tti.

Results: 12

Search history

Search PN=(WO2016064544) (Results 1)

1:

Search [SP]: 1. a method of wireless communication comprising: identifying a downlink transmission time interval (tti) of a time-division duplex (tdt) configured carrier receiving an indication of a duration of the downlink tti during the downlink tti receiving an indication of a duration of an uplink tti that follows the downlink tti, wherein the indication of the duration of the uplink tti is received during the downlink tti and communicating based at least in part on the indication of the duration of the downlink tti and the indication of the duration of the uplink tti. 2. the method of claim 1, further comprising: receiving a downlink grant during the downlink tti, wherein the downlink grant assigns a first set of resources during the downlink tti. 3. the method of claim 2, further comprising: receiving an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti receiving an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, wherein the indication of the duration of the subsequent uplink tti is received during the subsequent downlink tti and communicating based at least in part on the indication of the duration of the subsequent downlink tti and the indication of the duration of the subsequent uplink tti. 4. the method of claim 1, wherein the indication of the duration of the uplink tti indicates that the duration of the uplink tti is zero. 5. the method of claim 4, wherein the duration of the downlink tti and a duration of a subsequent downlink tti form a downlink burst that is time division multiplexed on resources of the tdt configured carrier. 6. the method of claim 1, wherein the communicating comprises: receiving a set of transport blocks (tbs) during the downlink tti, wherein the downlink tti comprises a variable tti determining hybrid automatic repeat request (harq) feedback for each tb of the set of tbs, wherein a number of tbs in the set of tbs is based at least in part on the duration of the downlink tti and transmitting the harq feedback for at least one tb of the set of tbs during the uplink tti. 7. the method of claim 6, further comprising: determining harq feedback for a number of code blocks (cbs), wherein each tb of the set of tbs comprises at least one cb, and wherein a quantity of cbs in each tb is based at least in part on a size of each tb and transmitting the harq feedback for the number of cbs during the uplink tti. 8. the method of claim 1, further comprising: entering a low power state during the downlink tti or the uplink tti based at least in part on an absence of a grant of resources during the downlink tti or the uplink tti. 9. an apparatus for wireless communication comprising: means for identifying a downlink transmission time interval (tti) of a time-division duplex (tdt) configured carrier means for receiving an indication of a duration of the downlink tti during the downlink tti means for receiving an indication of a duration of an uplink tti that follows the downlink tti, wherein the indication of the duration of the uplink tti is received during the downlink tti and means for communicating based at least in part on the indication of the downlink tti and the indication of the uplink tti. 10. the apparatus of claim 9, further comprising: means for receiving a downlink grant during the downlink tti, wherein the downlink grant assigns a first set of resources during the downlink tti. 11. the apparatus of claim 10, further comprising: means for receiving an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti means for receiving an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, wherein the indication of the duration of the subsequent uplink tti is received during the subsequent downlink tti and means for communicating based at least in part on the indication of the duration of the subsequent downlink tti and the indication of the duration of the subsequent uplink tti. 12. the apparatus of claim 9, wherein the indication of the duration of the uplink tti indicates that the duration of the uplink tti is zero. 13. the apparatus of claim 12, wherein the duration of the downlink tti and a duration of a subsequent downlink tti form a downlink burst that is time division multiplexed on resources of the tdt configured carrier. 14. the apparatus of claim 9, wherein the means for communicating comprises means for receiving a set of transport blocks (tbs) during the downlink tti, wherein the downlink tti comprises a variable tti, and wherein the apparatus further comprises: means for determining hybrid automatic repeat request (harq) feedback for each tb of the set of tbs, wherein a number of tbs in the set of tbs is based at least in part on the duration of the downlink tti and means for transmitting the harq feedback for at least one tb of the set of tbs during the uplink tti. 15. the apparatus of claim 14, further comprising: means for determining harq feedback for a number of code blocks (cbs), wherein each tb of the set of tbs comprises at least one cb, and wherein a quantity of cbs in each tb is based at least in part on a size of each tb and means for transmitting the harq feedback for the number of cbs during the uplink tti. 16. the apparatus of claim 9, further comprising: means for entering a low power state during the downlink tti or the uplink tti based at least in part on an absence of a grant of resources during the downlink tti or the uplink tti. 17. an apparatus for wireless communication, comprising: a processor memory in electronic communication with the processor and instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to: identify a downlink transmission time interval (tti) of a time-division duplex (tdt) configured carrier receive an indication of a duration of the downlink tti during the downlink tti receive an indication of a duration of an uplink tti that follows the downlink tti, wherein the indication of the duration of the uplink tti is received during the downlink tti and communicate based at least in part on the indication of the duration of the downlink tti and the indication of the duration of the uplink tti. 18. the apparatus of claim 17, wherein the instructions are operable to cause the apparatus to: receive a downlink grant during the downlink tti, wherein the downlink grant assigns a first set of resources during the downlink tti. 19. the apparatus of claim 18, wherein the instructions are operable to cause the apparatus to: receive an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti receive an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, wherein the indication of the duration of the subsequent uplink tti is received during the subsequent downlink tti and communicate based at least in part on the indication of the duration of the subsequent downlink tti and the indication of the duration of the subsequent uplink tti. 20. the apparatus of claim 17, wherein the indication of the duration of the uplink tti indicates that the duration of the uplink tti is zero. 21. the apparatus of claim 20, wherein the duration of the downlink tti and a duration of a subsequent downlink tti form a downlink burst that is time division multiplexed on resources of the tdt configured carrier. 22. the apparatus of claim 17, wherein the instructions are operable to cause the apparatus to: receive a set of transport blocks (tbs) during the downlink tti, wherein the downlink tti comprises a variable tti determine hybrid automatic repeat request (harq) feedback for each tb of the set of tbs, wherein a number of tbs in the set of tbs is based at least in part on the duration of the downlink tti and transmit the harq feedback for at least one tb of the set of tbs during the uplink tti. 23. the apparatus of claim 22, wherein the instructions are operable to cause the apparatus to: determine harq feedback for a number of code blocks (cbs), wherein each tb of the set of tbs comprises at least one cb, and wherein a quantity of cbs in each tb is based at least in part on a size of each tb and transmit the harq feedback for the number of cbs during the uplink tti. 24. the apparatus of claim 17, wherein the instructions are operable to cause the apparatus to: enter a low power state during the downlink tti or the uplink tti based at least in part on an absence of a grant of resources during the downlink tti or the uplink tti. 25. a non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable to: identify a downlink transmission time interval (tti) of a time-division duplex (tdt) configured carrier receive an indication of a duration of the downlink tti during the downlink t (Results 0)

Search [SP]: cross references [0001] the present application for patent claims priority to u.s. provisional patent application no. 62/068,416, entitled "feedback for variable transmission time intervals," filed oct. 24, 2014, and u.s. provisional patent application no. 62/075,624, entitled "flexible multiplexing operation for downlink data," filed nov. 5, 2014, assigned to the assignee hereof, and expressly incorporated by reference herein. background [0002] 1. field of disclosure [0003] the following relates generally to wireless communication, and more specifically to flexible multiplexing operation for downlink (dl) data and hybrid automatic repeat request (harq) feedback for variable transmission time interval (tti), including variable ttis for enhanced component carriers (ecc).[0004] 2. description of related art [0005] wireless communications systems are widely deployed to provide various types of communication content such as voice, video, packet data, messaging, broadcast, and so on. these systems may be multiple-access systems capable of supporting communication with multiple users by sharing the available system resources (e.g., time, frequency, and power). examples of such multiple-access systems include code division multiple access (cdma) systems, time division multiple access (tdma) systems, frequency division multiple access (fdma) systems, and orthogonal frequency division multiple access (ofdma) systems, (e.g., a long term evolution (lte) system).[0006] by way of example, a wireless multiple-access communications system may include a number of base stations, each simultaneously supporting communication for multiple communication devices, which may be otherwise known as user equipment (ues). a base station may communicate with the communication devices on downlink channels (e.g., for transmissions from a base station to a ue) and uplink channels (e.g., for transmissions from a ue to a base station).[0007] some wireless systems may employ time division duplexing (tdt), in which the same frequency resources are used for ul and dl transmissions. in such systems, a multiplexing mode may be selected to serve multiple ues. for example, a base station may choose to switch to ul after transmitting data to a single ue, after transmitting to multiple ues one after the other, or after transmitting to multiple ues that are allocated different frequency ranges. however, each method may result in a different tradeoffs between latency, resource efficiency, and scheduling flexibility.[0008] increasingly, many wireless applications benefit from reduced

latency communication. additionally, wide bandwidth carriers and spectrum sharing (e.g., unlicensed spectrum use) have introduced more flexibility, and a greater number of variables for efficient system operation, including issues related to efficient feedback to maintain low latency. summary [0009] methods, systems, and apparatuses for flexible multiplexing operation for dl data are described. within a tdd system, for example, a multiplexing configuration may be selected or identified based on latency and efficiency considerations. a base station may implement the multiplexing configuration by transmitting a combination of a resource grant, a signal indicating the length of a downlink (dl) transmission time interval (tti), and a signal indicating the length of a subsequent uplink (ul) tti to one or more user equipment (ues). if the latency and efficiency considerations change, the base station may dynamically select a new multiplexing configuration by, for example, setting the length of an ul tti to zero or assigning multiple ues resources in the same dl tti.[0010] additionally, methods, systems, and apparatuses for providing feedback for systems employing variable tti are described. latency for downlink feedback may be reduced by employing block feedback, including block hybrid automatic repeat request (harq) feedback for an ecc. a ue, for example, may receive a set of transport blocks (tbs) in a variable downlink tti. the ue may determine harq feedback for each tb of the set of tbs, and the number of tbs in the set may be based on a time duration of the variable downlink tti. the ue may transmit, in an uplink tti following the downlink tti, the harq feedback for each tb. in some cases, harq feedback may be bundled for two or more tbs of the set of tbs if, for instance, a maximum number of harq resources for the uplink tti would otherwise be exceeded.[0011] uplink feedback may also improve latency. for instance, a ue may receive a grant for an uplink tb or for a retransmission of an uplink tb. the ue may determine that the grant represents an acknowledgment (ack) when the grant is for an original transmission tb, or the ue may determine that the grant represents a negative acknowledgment (nack) when the grant is for a retransmission of a tb.[0012] additionally or alternatively, uplink transmissions may be multiplexed in a way that improves latency. a base station, for example, may receive a first set of harq feedback for each tb of a first set of tbs, transmitted using a variable downlink tti, from a first ue during a first uplink tti. the base station may also concurrently receive a second set of harq feedback for each tb of a second set of tbs from a second ue during the first uplink tti.[0013] a method of wireless communication is described. the method may include identifying a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, receiving an indication of a duration of the downlink tti during the downlink tti and receiving an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti. the method may also include communicating based at least in part on the indication of the downlink tti and the indication of the uplink tti.[0014] an apparatus for wireless communication is described. the apparatus may include means for identifying a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, means for receiving an indication of a duration of the downlink tti during the downlink tti, and means for receiving an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti and the means for communicating may be operable based at least in part on the indication of the downlink tti and the indication of the uplink tti.[0015] a further apparatus is described. the apparatus may include a processor, memory in electronic communication with the processor, and instructions stored in the memory. the instructions may be operable to cause the apparatus to identify a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, receive an indication of a duration of the downlink tti during the downlink tti, and receive an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti. the instructions may also be operable to cause the apparatus to communicate based at least in part on the indication of the downlink tti and the indication of the uplink tti.[0016] a non-transitory computer readable medium for wireless communication is described. the non-transitory computer-readable medium may include instructions executable to identify a downlink transmission time interval (tti) of a time-division duplex (tdd) configured carrier, receive an indication of a duration of the downlink tti during the downlink tti, and receive an indication of a duration of an uplink tti that follows the downlink tti. the indication of the uplink tti duration may be received during the downlink tti. the instructions may also be executable to communicate based on the indication of the downlink tti and the indication of the uplink tti.[0017] some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving a downlink grant during the downlink tti, where the downlink grant assigns a first set of resources during the downlink tti.[0018] some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving an additional downlink grant that assigns a second set of resources during the downlink tti.[0019] in some examples of the method, apparatus, or non-transitory computer-readable medium described above, the first set of resources and the second set of resources are frequency division multiplexed (fdm) during the downlink tti.[0020] some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving a subsequent downlink grant during a subsequent downlink tti that follows the downlink tti. some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving an indication of a duration of a subsequent downlink tti that follows the downlink tti, wherein the indication of the duration of the subsequent downlink tti is received during the subsequent downlink tti. some examples of the method, apparatus, or non-transitory computer-readable medium described above may further include processes, features, means, or instructions for receiving an indication of a duration of a subsequent uplink tti that follows the subsequent downlink tti, where the indication of the duration of the subsequent uplink tti is received during th (Results 12)

Search [SP]: flexible multiplexing and feedback for variable transmission time intervals methods, systems, and devices for wireless communication
4: are described. a base station may employ a multiplexing configuration based on latency and efficiency considerations. the base station may transmit a resource grant, a signal indicating the length of a downlink (dl) transmission time interval (tti), and a signal indicating the length of a subsequent uplink (ul) tti to one or more user equipment (ues). the base station may dynamically select a new multiplexing configuration by, for example, setting the length of an ul tti to zero or assigning multiple ues resources in the same dl tti. latency may also be reduced by employing block feedback, such as block hybrid automatic repeat request (harq) feedback. a ue may determine and transmit harq feedback for each transport block (tb) of a set of tbs, which may be based on a time duration of a downlink tti. (Results 12)

Title: FLEXIBLE MULTIPLEXING AND FEEDBACK FOR VARIABLE TRANSMISSION TIME INTERVALS

Abstract: Source: US2016119948A [EN] Methods, systems, and devices for wireless communication are described. A base station may employ a multiplexing configuration based on latency and efficiency considerations. The base station may transmit a resource grant, a signal indicating the length of a downlink (DL) transmission time interval (TTI), and a signal indicating the length of a subsequent uplink (UL) TTI to one or more user equipment (UEs). The base station may dynamically select a new multiplexing configuration by, for example, setting the length of an UL TTI to zero or assigning multiple UEs resources in the same DL TTI. Latency may also be reduced by employing block feedback, such as block hybrid automatic repeat request (HARQ) feedback. A UE may determine and transmit HARQ feedback for each transport block (TB) of a set of TBs, which may be based on a time duration of a downlink TTI.

Classifications:

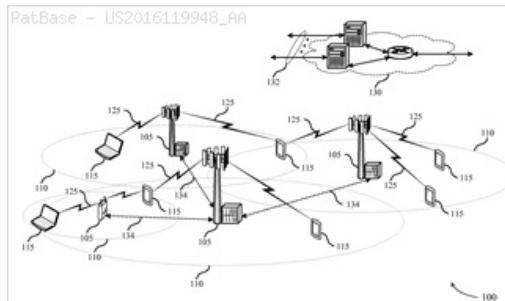
International (ipc 8-9): H04L1/18 H04L27/26 H04L5/00 H04L5/14 H04W H04W28/04 H04W72/00 H04W72/04 H04W72/12 H04W72/14 (Advanced/Invention); H04L5/00 H04W72/00 (Core/Invention); H04W (Subclass/Invention)

International (ipc 1-7): H04L5/00

CPC: H04W72/1294 H04L5/14 H04L1/1812 H04L5/0044 H04L5/0094

H04L5/0055 H04W72/1289 H04W72/14

US: 370/280

**Family:**

Publication number	Publication date	Application number	Application date
AU2015337025 AA	20160428	AU20150337025	20150930
BR112017008260 A2	20171226	BR20171108260	20150930
CA2962104 AA	20170321	CA20152962104	20150930
CL2017000963 A1	20171229	CL20170000963	20170418
CN107078881 A	20170818	CN201580057308	20150930
CO20170003790 A2	20170711	CO20170003790	20170419
EP3210330 A1	20170830	EP20150781005	20150930
ID201802815 A	20180323	ID2017P0002546	20150930
IL251018 A0	20170430	IL20150251018	20150930
IN201727009529 A	20170505	IN201727009529	20170320
JP2017533653 T2	20171109	JP20170522134T	20150930
KR20170074884 A	20170630	KR20177010964	20150930
MX2017005233 A1	20170726	MX20170005233	20150930
PH2017500514 A	20170807	PH20170500514	20170317
SG11201701984U A1	20170530	SG20171101984	20150930
US2016119948 AA	20160428	US20150869152	20150929
WO16064544 A1	20160428	WO2015US53081	20150930

Priority:

US20140068416P 20141024 US20140075624P 20141105 US20150869152 20150929
WO2015US53081 20150930

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD AND APPARATUS FOR PROVIDING EFFICIENT DISCONTINUOUS COMMUNICATION

Abstract: Source: US2008186893A [EN] An approach is provided for receiving and transmitting data over a wireless network, while minimizing power consumption. A determination is made, as part of a discontinuous communication mechanism defining an on-period for permitting transmission of data over a network, whether a resource allocation has been made to a user equipment for communicating over the network. If the resource allocation has been made, generating a keep-awake message to instruct the user equipment to extend the on-period.

Classifications:

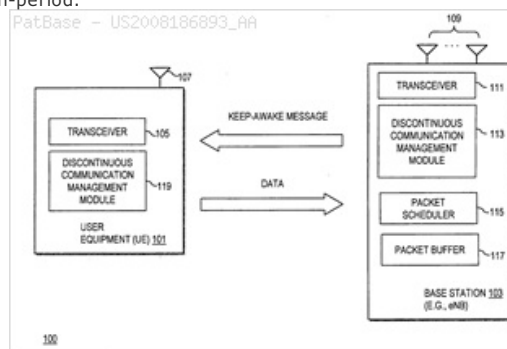
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International (IPC 1-7): H04Q7/32

CPC: H04W52/0235 H04W72/12 Y02D70/1224 Y02D70/1226 Y02D70/1262 Y02D70/146 Y02D70/23 Y02D70/24 Y02D70/25 Y02D70/26 Y02B60/50 Y02D70/00

European: H04W52/02E4 H04W52/02T4C T04W72/12

US: 370/311 370/311P

**Family:**

Publication number	Publication date	Application number	Application date
CN101637052 A	20100127	CN200880008630	20080206
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JP5583975 B2	20140903	JP20090548761T	20080206
KR101084844 B1	20111121	KR20097018546	20080206
KR20090117789 A	20091112	KR20097018546	20080206
US2008186893 AA	20080807	US20080027061	20080206
US9918277 BB	20180313	US20080027061	20080206
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Priority:

US20070888514P 20070206 US20080027061 20080206 WO2008IB00267 20080206

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Agent(s): TOGNETTY VIRPI MARIA; DITTHAVONG MORI AND STEINER PC; DITTHAVONG AND STEINER PC; DITTHAVONG PHOUPHANOMKETH ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD FOR ALLOCATING DYNAMIC TRANSMIT TIME INTERVAL

Abstract: Source: US2010322229A [EN] A method for allocating various transmit time intervals (TTIs) if a sub-frame structure is used, in a radio access system is provided. A transmitter transmits a super frame header including TTI information of a sub-frame included in a super frame to a receiver and transmits a sub-map including resource allocation information to the receiver, thereby dynamically allocating the TTI. Since the TTI information may not be received via the sub-map in every sub-frame, it is possible to prevent waste of a radio resource.

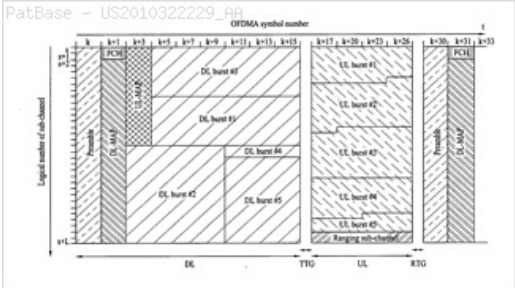
Classifications:

International (ipc 8-9): H04J3/00 H04L27/26 H04L29/10
H04W72/04 (Advanced/Invention);
H04L27/26 H04L29/10 (Advanced/Non-invention);
H04L27/26 H04L29/10 (Core/Invention)

CPC: H04L1/1812 H04L5/0039 H04L5/0044 H04L5/0048 H04L5/0053
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European: H04L5/00E1 H04L5/00E2 H04W72/04F T04L1/18D
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US: 370/342 370/343 370/345 370/345P



Family:

Publication number	Publication date	Application number	Application date
KR101570350 B1	20151119	KR20080128831	20081217
KR20090090994 A	20090826	KR20080128831	20081217
US2010322229 AA	20101223	US20090866681	20090220
US8532083 BB	20130910	US20090866681	20090220
WO09104922 A2	20090827	WO2009KR00818	20090220
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Priority:

US20080030570P 20080222 KR20080031215 20080403 KR20080128831 20081217
WO2009KR00818 20090220 US20090866681 20090220

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): KIM JEONG KI ; LG ELECTRONICS INC ; RYU KI SEON ; YUK YOUNG SOO

Inventor(s): (std): YUK YOUNG SOO ; RYU KI SEON ; KIM JEONG KI

Agent(s): LEE HONG DEGERMAN KANG AND WAIMEY; KIM YONG IN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU
CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL
IN IS IT JP KE KG KM KN KP KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX
MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ
TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CODE BLOCK INTERFERENCE CANCELLATION

Abstract: Source: US2011206170A [EN] Certain aspects of the present disclosure propose an interference cancellation method based on the sub-blocks inside a block. For example, in the long term evolution (LTE) standard, the sub-blocks may be code blocks and the blocks may be transport block.

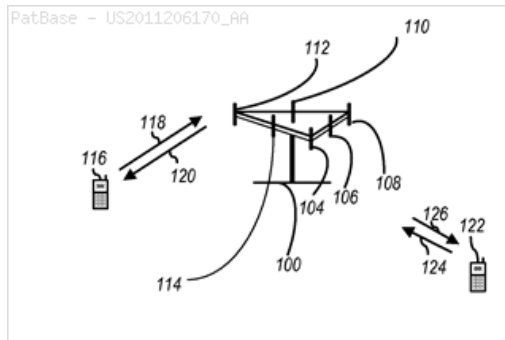
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International (IPC 8-9): H03D1/04 H03D1/06 H03K6/04 H04B1/10 H04B1/7107 H04B17/00 H04J11/00 H04L1/00 (Advanced/Invention)

CPC: H04B1/7107 H04J11/004

European: H04B1/7107 H04J11/00F1B1

US: 375/316 375/346 375/346P



Family:

Publication number	Publication date	Application number	Application date
TW201210214 A	20120301	TW20110106029	20110223
US2011206170 AA	20110825	US20110032087	20110222
US8451964 BB	20130528	US20110032087	20110222
WO11106444 A1	20110901	WO2011US25947	20110223

Priority:

US20100307273P 20100223 US20110032087 20110222

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Inventor(s): (std): BHATTACHARJEE SUPRATIK ; WILBORN THOMAS B ; WILLBORN THOMAS B

Agent(s): KENNETH; VU KENNETH K D

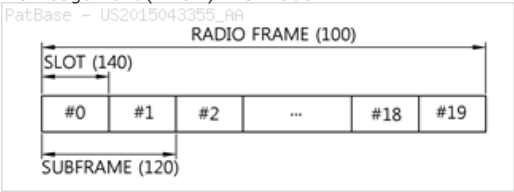
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Title: METHOD AND DEVICE FOR MONITORING DOWNLINK CHANNELS

Abstract: Source: US2015043355A [EN] Disclosed are a method and a device for monitoring a downlink control channel in a wireless communication system. The method for monitoring a downlink control channel in a wireless communication system may comprise the steps of determining whether a common search space in a subframe exists in a physical downlink control channel (PDCCH) region or in an enhanced physical downlink control channel (ePDCCH) region; and when the common search space exists in the ePDCCH region, monitoring, in the ePDCCH region, a downlink control channel for hybrid automatic repeat request (HARQ) acknowledgement (ACK) or non-acknowledgement (NACK) information.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04L1/16 H04L1/18
H04L12/26 (Advanced/Invention);
H04L1/18 H04L5/00 (Advanced/Non-invention)
CPC: H04L43/08 H04J11/00 H04L1/1607 H04L1/1812 H04L1/1867
H04L5/0048 H04L5/0055 H04L5/0073
US: 1/1 370/241



Family:

Publication number	Publication date	Application number	Application date
US2015043355 AA	20150212	US20130384343	20130405
US9479407 BB	20161025	US20130384343	20130405
WO13151389 A1	20131010	WO2013KR02881	20130405

Priority:

US20120620964P 20120405 US20130384343 20130405 WO2013KR02881 20130405

Probable Assignee: LG ELECTRONICS INC

Assignee(s): (std): LG ELECTRONICS INC

Inventor(s): (std): KIM HAK SEONG ; SEO HAN BYUL ; SEO HANBYUL ; KIM HAKSEONG

Agent(s): BIRCH STEWART KOLASCH AND BIRCH LLP; S AND IP PATENT AND LAW FIRM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: TRANSMISSION OF SOUNDING REFERENCE SIGNALS FOR ADAPTIVELY CONFIGURED TDD COMMUNICATION SYSTEMS

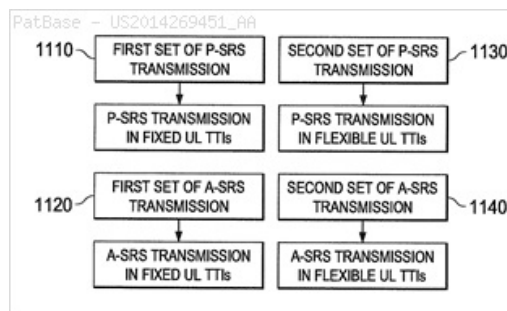
Abstract: Source: US2014269451A [EN] Methods and apparatus of a base station or a User Equipment (UE) in communication with each other are provided. The UE is configured by the base station for operation with an adapted Time Division Duplex (TDD) Uplink-DownLink (UL-DL) configuration. A process enabling transmission of a Sounding Reference Signal (SRS) from the UE to the base station and a process for the base station to determine parameters for a DL transmission to the UE are provided.

Classifications:

International (IPC 8-9): H04B7/26 H04J3/00 H04J3/02 H04J3/16 H04L5/00 H04L5/14 H04W24/00 H04W24/10 H04W4/00 H04W72/04 (Advanced/Invention)

CPC: H04L5/005 H04B7/2656 H04L5/14 H04L5/1469 H04L5/001 H04L5/0048 H04L5/0053

US: 1/1 370/280 370/294 370/329



Family:

Publication number	Publication date	Application number	Application date
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IN03139KN2015 A	20160701	IN2015KN03139	20150924
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KR20150132368 A	20151125	KR20157029056	20140313
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Priority:

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Assignee(s): (std): SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO

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Agent(s): NEDERLANDSCH OCTROOIBUREAU; LEE KEON JOO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CONTROL INFORMATION FEEDBACK FOR ECC ON PCELL

Abstract: Source: US2016205679A [EN] Described herein are methods, systems, and apparatus for communicating control information over a primary component carrier (PCell). In one example, a method for wireless communication is described that includes communicating using an enhanced component carrier (eCC) on at least a secondary component carrier (SCell) in a carrier aggregation (CA) configuration. The method may also include using a PCell for control information pertaining to communications on the eCC. The control information may be channel state information (CSI) or acknowledgment/negative-acknowledgment (ACK/NACK) feedback information.

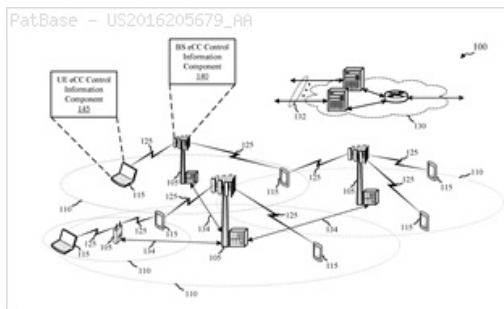
Classifications:

International (IPC 8-9): H04L1/00 H04L1/16 H04L1/18 H04L5/00
H04W16/14 H04W24/10 H04W72/04 H04W72/14 (Advanced/Invention)

CPC: H04W72/0413 H04L5/0055 H04W72/042 H04W72/14

H04L1/0026 H04L1/1854 H04L1/1861 H04L5/001 H04L5/0057

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
BR112017014939 A2	20180313	BR20171114939	20151231
CN107210867 A	20170926	CN201580073091	20151231
EP3245750 A1	20171122	EP20150830968	20151231
IN201747018396 A	20170602	IN201747018396	20170525
JP2018505601 T2	20180222	JP20170536897T	20151231
KR20170103798 A	20170913	KR20177018744	20151231
US2016205679 AA	20160714	US20150984339	20151230
WO16114938 A1	20160721	WO2015US68332	20151231

Priority:

US20150102739P 20150113 US20150104964P 20150119 US20150984339 20151230
WO2015US68332 20151231

Probable Assignee: QUALCOMM INC

Assignee(s): (std): QUALCOMM INC

Inventor(s): (std): DAMNJANOVIC ALEKSANDAR ; DAMNJANOVIC JELENA ; MALLADI DURGA PRASAD ; WEI YONGBIN ; YOO TAESANG

Inventor(s): ALEKSANDAR DAMNJANOVIC ; YONGBIN WEI ; TAESANG YOO ; DURGA PRASAD MALLADI ; JELENA DAMNJANOVIC

Agent(s): DUNLOP HUGH CHRISTOPHER; ANDERSON THOMAS D

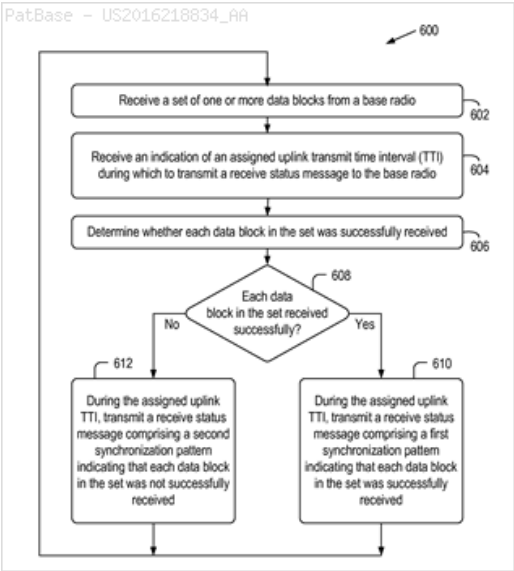
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Title: TIME EFFICIENT GROUP DATA ACKNOWLEDGEMENT

Abstract: Source: US2016218834A [EN] A method and apparatus for time-efficient confirmed group data acknowledgement includes a radio subscriber unit (SU) configured to (i) generate a receive status message comprising a first synchronization pattern indicating successful receipt of a set of data blocks when the SU has successfully received the set of data blocks from a base radio, (ii) generate a receive status message comprising a second synchronization pattern indicating unsuccessful receipt of a set of data blocks when the SU has not successfully received the set of data blocks from the base radio, and (iii) transmit the generated receive status message from the SU to the base radio during an uplink transmit time interval assigned by the base radio.

Classifications:

International (IPC 8-9): H04L1/16 H04W56/00
H04W72/04 (Advanced/Invention);
H04W72/04 H04W72/12 (Advanced/Non-invention)
CPC: H04W72/0446 H04L1/1635 H04W56/0015 H04W72/1289
US: 370/329



Family:

Publication number	Publication date	Application number	Application date
US2016218834 AA	20160728	US20150605143	20150126
US9654257 BB	20170516	US20150605143	20150126

Priority:

US20150605143 20150126

Probable Assignee: MOTOROLA SOLUTIONS INC
Assignee(s): (std): MOTOROLA SOLUTIONS INC
Inventor(s): (std): BOHN THOMAS B
Agent(s): DANIEL R

Title: POWER CONTROL AND POWER HEADROOM FOR COMPONENT CARRIER

Abstract: Source: US2016255594A [EN] Methods, systems, and devices for wireless communication are described. A user equipment (UE) may coordinate power utilization across component carriers (CCs) with different transmission time interval (TTI) configurations. For example, the UE may reserve a portion of the transmit power for a CC with a reduced TTI length (e.g., an enhanced CC (eCC)). In other examples, the UE may dynamically allocate power between CCs with overlapping uplink periods. That is, the UE may borrow power allocated to one CC to transmit on an eCC. The UE may use a prioritization scheme to determine the transmit power for each CC. In some cases, the UE may send a power headroom report based on the power level of the eCC. The power headroom may be a virtual power headroom based on predicted eCC transmission power, or an actual power headroom based on uplink scheduling.

Classifications:

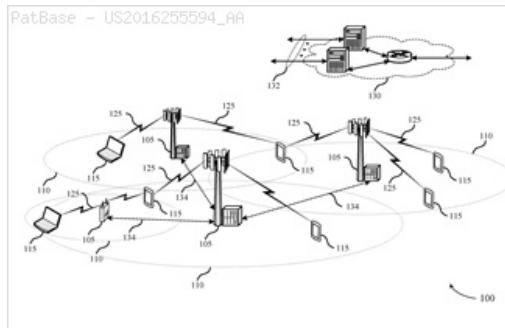
International (IPC 8-9): H04W52/04 H04W52/14 H04W52/34

H04W52/36 H04W88/08 (Advanced/Invention);

H04W52/14 (Advanced/Non-invention)

CPC: H04W52/346 H04W52/365 H04W52/146

US: 455/522

**Family:**

Publication number	Publication date	Application number	Application date
BR112017018353 A2	20180417	BR20171118353	20160218
CN107251619 A	20171013	CN201680011482	20160218
EP3262873 A2	20180103	EP20160707339	20160218
IN201727023718 A	20171110	IN201727023718	20170706
KR20170118761 A	20171025	KR20177023724	20160218
TW201635826 A	20161001	TW20160104843	20160218
TWI620457 B	20180401	TW20160104843	20160218
US2016255594 AA	20160901	US20160045603	20160217
US9749970 BB	20170829	US20160045603	20160217
WO16137816 A2	20160901	WO2016US18492	20160218
WO16137816 A3	20161020	WO2016US18492	20160218

Priority:

US20150121942P 20150227 US20160045603 20160217 WO2016US18492 20160218

Probable Assignee: QUALCOMM INC

Assignee(s): (std): QUALCOMM INC

Inventor(s): (std): CHEN WAN SHI ; CHEN WANSHI ; DAMNJANOVIC JELENA ; GAAL PETER ; VAJAPPEYAM MADHAVAN SRINIVASAN ; YOO TAE SANG ; YOO TAESANG

Inventor(s): WANSHI CHEN ; JELENA DAMNJANOVIC ; MADHAVAN SRINIVASAN VAJAPPEYAM ; PETER GAAL ; TAESANG YOO

Agent(s): WEGNER HANS; HOLLAND AND HART LLP; ANDERSON THOMAS D

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: DEVICE, NETWORK, AND METHOD FOR WIDEBAND LTE WITH VIRTUAL (BASEBAND) CARRIER AGGREGATION

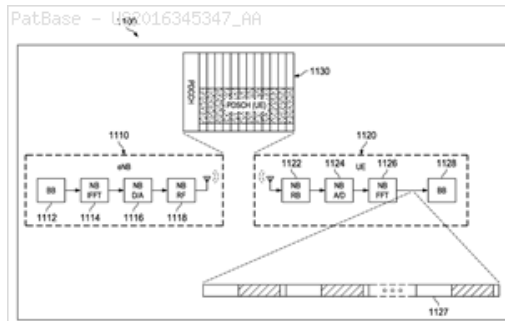
Abstract: Source: US2016345347A [EN] Methods for wireless communications over a wideband carrier are provided. Time-frequency resources of the wideband carrier within a transmission time interval are divided into multiple time-frequency resource blocks. Each of the time-frequency resource blocks corresponds to a group of contiguous subcarriers of the wideband carrier and orthogonal frequency division multiplexing symbols. Data streams may be scheduled to be transmitted in different time-frequency resource blocks, and may be destined for different user equipments or the same user equipment. Baseband processing operations may be performed on data streams scheduled in different time-frequency resource blocks independently from one another. Separate control channels or one common control channel may be configured for data transmissions in different time-frequency resource blocks.

Classifications:

International (IPC 8-9): H04L27/26 H04L5/00 H04W72/04 H04W72/12 (Advanced/Invention)

CPC: H04L25/00 H04W72/14 H04L5/001 H04L5/0044 H04L5/0053 H04L5/0037

US: 370/330



Family:

Publication number	Publication date	Application number	Application date
CN107615858 A	20180119	CN201680029732	20160520
EP3295744 A1	20180321	EP20160799262	20160520
US2016345347 AA	20161124	US20160156944	20160517
WO16188374 A1	20161201	WO2016CN082811	20160520

Priority:

US20150165688P 20150522 US20160156944 20160517 WO2016CN082811 20160520

Probable Assignee: FUTUREWEI TECHNOLOGIES INC

Assignee(s): (std): FUTUREWEI TECHNOLOGIES INC ; HUAWEI TECH CO LTD

Assignee(s): HUAWEI TECHNOLOGIES CO ; HUAWEI TECHNOLOGIES CO LTD

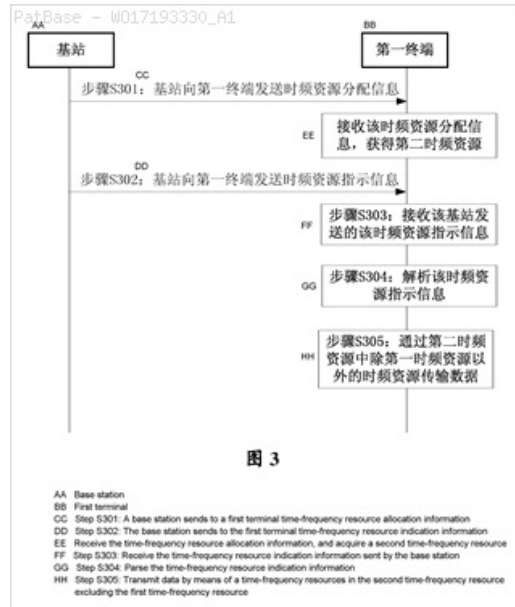
Inventor(s): (std): CHENG QIAN ; LIU JIALING ; SARTORI PHILIPPE ; XIAO WEIMIN

Agent(s): KOERBER MARTIN HANS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: RESOURCE INDICATION METHOD, RELATED APPARATUS, AND SYSTEM

Abstract: Disclosed in embodiments of the present invention are a resource indication method, related apparatus, and system. The method comprises: a base station sends to a first terminal time-frequency resource indication information used to indicate that a first time-frequency resource is allocated to a second terminal by the base station, wherein the time domain of the first time-frequency resource is a portion of the time domain of a second time-frequency resource, and the second time-frequency resource is a time-frequency resource allocated to the first terminal by the base station for data transmission; and the base station performs, by means of a time-frequency resource in the second time-frequency resource not overlapping the first time-frequency resource, data transmission with the first terminal. Employing the embodiments of the present invention can improve a utilization rate of time-frequency resources, and ensure timely processing of low-latency services.

Classifications:**International (IPC 8-9):** H04W72/04 (Advanced/Invention)**CPC:** H04W72/04**Family:**

Publication number	Publication date	Application number	Application date
WO17193330 A1	20171116	WO2016CN081852	20160512

Priority:

WO2016CN081852 20160512

Probable Assignee: HUAWEI TECH CO LTD**Assignee(s):** (std): HUAWEI TECH CO LTD ; HUAWEI TECHNOLOGIES CO LTD**Assignee(s):** HUAWEI TECHNOLOGIES CO**Inventor(s):** (std): TANG HAO ; WEI DONGDONG**Agent(s):** GUANGZHOU SCIHEAD PATENT AGENT CO LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: COMMUNICATION METHOD, NETWORK DEVICE, AND TERMINAL

Abstract: A communication method, a network device, and a terminal. A network device determines that a transmission time interval (TTI) length of a communication link is changed; the network device sends indication information to a terminal; the terminal receives the indication information that is sent by the network device under the condition of determining that the TTI length of the communication link is changed, clears transmission blocks (TBs) of at least one HARQ process of the terminal according to the indication information, or communicates with the network device on a frequency domain resource where the changed TTI length is located, so as to ensure correct sending and receiving of data packets in a DL HARQ process and an UL HARQ process under the condition that the TTI length is changed.

Classifications:

International (IPC 8-9): H04W28/18 (Advanced/Invention)

CPC: H04W28/18



Family:

Publication number	Publication date	Application number	Application date
WO18027949 A1	20180215	WO2016CN094990	20160812

Priority:

WO2016CN094990 20160812

Probable Assignee: HUAWEI TECH CO LTD

Assignee(s): (std): HUAWEI TECH CO LTD

Assignee(s): HUAWEI TECHNOLOGIES CO ; HUAWEI TECHNOLOGIES CO LTD

Inventor(s): (std): LI CHAO ; SHI JIE ; ZHANG XINGWEI

Agent(s): TDIP AND PARTNERS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW