

1) Family number: 62057912 (US2016100403 AA)

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Title: SUB-BAND ALLOCATION TECHNIQUES FOR REDUCED-BANDWIDTH MACHINE-TYPE COMMUNICATION (MTC) DEVICES

Abstract: Sub-band allocation techniques for reduced-bandwidth machine-type communication (MTC) devices are described. In one embodiment, for example, user equipment (UE) may comprise logic, at least a portion of which is in hardware, the logic to identify a machine-type communication (MTC) sub-band allocation based on received MTC sub-band allocation information, the MTC sub-band allocation to comprise an allocation of a plurality of subcarriers to an MTC sub-band of a system bandwidth of a serving cell of the UE, the MTC sub-band allocation to define at least one MTC direct current (DC) subcarrier among the plurality of subcarriers, and a radio interface to receive a transmission via the MTC sub-band according to the MTC sub-band allocation. Other embodiments are described and claimed.

Classifications:

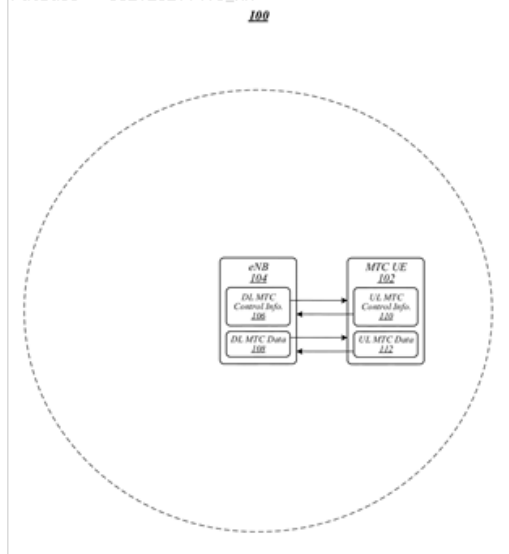
International (IPC 8-9): H04B H04B3/54 H04L27/26 H04L5/00 H04W H04W4/00 H04W4/08 H04W4/70 H04W72/04 H04W8/06 H04W8/18

CPC: H04B3/54 H04W4/08 H04W4/70 H04W72/04 H04W72/0453

H04W72/048 H04W72/0486 H04W8/06 H04W8/186

US: 370/329

PatBase - US2016100403_AA



Family:

Publication number	Publication date	Application number	Application date
CN106797529 A	20170531	CN201580046249	20150902
CN106797529 B	20200526	CN201580046249	20150902
EP3202078 A1	20170809	EP20150847209	20150902
EP3202078 A4	20180613	EP20150847209	20150902
HK1235981 A1	20180316	HK20170109595	20170921
IN201747006077 A	20170428	IN201747006077	20170221
JP2017531948 T2	20171026	JP20170517787T	20150902
KR20170038893 A	20170407	KR20177005865	20150902
US10064181 BB	20180828	US20150672118	20150328
US2016100403 AA	20160407	US20150672118	20150328
WO16053566 A1	20160407	WO2015US48118	20150902

Priority:

US20140059745P 20141003 US20150672118 20150328 WO2015US48118 20150902

Probable Assignee: INTEL CORP

Assignee(s): (std): CHATTERJEE DEBDEEP ; HAN SEUNGHEE ; INTEL CORP ; INTEL IP CORP ; WAGNER ELMAR ; XIONG GANG

Inventor(s): (std): CHATTERJEE DEBDEEP ; HAN SEUNGHEE ; WAGNER ELMAR ; XIONG GANG

Agent(s): BJ INT AGENCY FOR PATENT AND TRADEMARK LTD; ITOH TADAHIKO; ITOH TADASHIGE; KACVINSKY JOHN F; OHNUKI SHINSUKE; RUMMLER FELIX

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 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

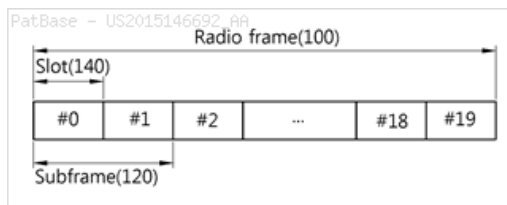
2) Family number: 55708414 (US2015146692 AA)

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Title: METHOD AND APPARATUS FOR CELL SWITCHING

Abstract: Disclosed are a method and an apparatus for transmitting data. A cell switching method can comprise the steps of: allowing a primary (P)-cell base station to enable a first secondary(S)-cell; allowing the P-cell base station to receive channel state information from a second S-cell; allowing the P-cell base station to determine the second S-cell as a switching S-cell on the basis of the channel state information; allowing the P-cell base station to disable the first S-cell and enable the second S-cell.

Classifications:
International (IPC 8-9): H04W36/00 H04W36/08 H04W36/24
CPC: H04W36/0055 H04W36/0069 H04W36/24
US: 370/331 1/1



Family:

Publication number	Publication date	Application number	Application date
US2015146692 AA	20150528	US20130415981	20130726
US9526057 BB	20161220	US20130415981	20130726
WO14017869 A1	20140130	WO2013KR06733	20130726

Priority:

US20120676335P 20120727 WO2013KR06733 20130726 US20130415981 20130726

Probable Assignee: LG ELECTRONICS

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

Inventor(s): (std): AHN JOON KUI ; KIM BYOUNG HOON ; SEO DONG YOUN ; YI YUN JUNG

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

3) Family number: 67013630 (US2019045452 AA)

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Title: DATA SENDING METHOD, DATA RECEIVING METHOD, TRANSMIT-END DEVICE, AND RECEIVE-END DEVICE

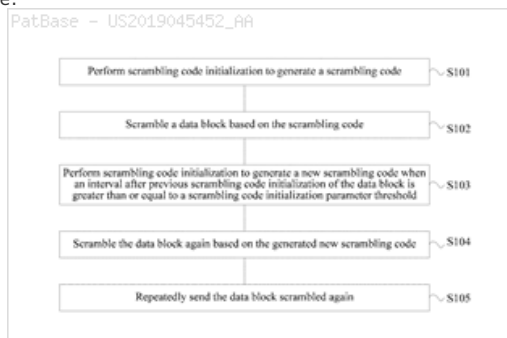
Abstract: Embodiments of this application provide a data sending method, a data receiving method, a transmit-end device, and a receive-end device. The data sending method provided in the embodiments of this application may include: performing scrambling code initialization to generate a scrambling code; scrambling a data block based on the scrambling code; repeatedly sending the scrambled data block; performing scrambling code initialization to generate a new scrambling code when an interval after previous scrambling code initialization of the data block is greater than or equal to a preset scrambling code initialization parameter threshold; scrambling the data block again based on the generated new scrambling code; and repeatedly sending the data block scrambled again. The embodiments of this application can improve efficiency of data transmission between a transmit-end device and a receive-end device.

Classifications:

International (IPC 8-9): H04L1/00 H04L1/06 H04L1/18 H04L27/26 H04L5/00 H04W52/10 H04W52/24 H04W52/26 H04W72/04

CPC: H04L1/06 H04L27/26 H04L5/0007 H04W52/10 H04W52/24 H04W52/26 H04W52/262 H04W72/0446

US: 1/1 455/522



Family:

Publication number	Publication date	Application number	Application date
CN107204825 A	20170926	CN201610158478	20160316
CN107204825 B	20190712	CN201610158478	20160316
CN110289941 A	20190927	CN201910609541	20160316
CN110430027 A	20191108	CN201910609548	20160316
EP3422621 A1	20190102	EP20170765828	20170314
EP3422621 A4	20190605	EP20170765828	20170314
IN201827035493 A	20181116	IN201827035493	20180920
US10536907 BB	20200114	US20180132245	20180914
US2019045452 AA	20190207	US20180132245	20180914
US2020213951 AA	20200702	US20190725317	20191223
WO17157286 A1	20170921	WO2017CN076665	20170314

Priority:

CN201610158478 20160316 CN201910609541 20160316 CN201910609548 20160316
WO2017CN076665 20170314 US20180132245 20180914 US20190725317 20191223

Probable Assignee: HUAWEI TECHNOLOGIES CO LTD

Assignee(s): (std): HUAWEI TECH CO LTD ; HUAWEI TECHNOLOGIES CO LTD

Assignee(s): HUAWEI TECHNOLOGIES CO

Inventor(s): (std): LIU ZHENG ; LUO CHAO ; TIE XIAOLEI ; YANG YUBO

Agent(s): CONLEY ROSE PC; EPPING HERMANN FISCHER; LEADER PATENT AND TRADEMARK 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 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 KH 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: WIRELESS COMMUNICATION METHOD, WIRELESS COMMUNICATION SYSTEM, WIRELESS STATION, AND WIRELESS TERMINAL

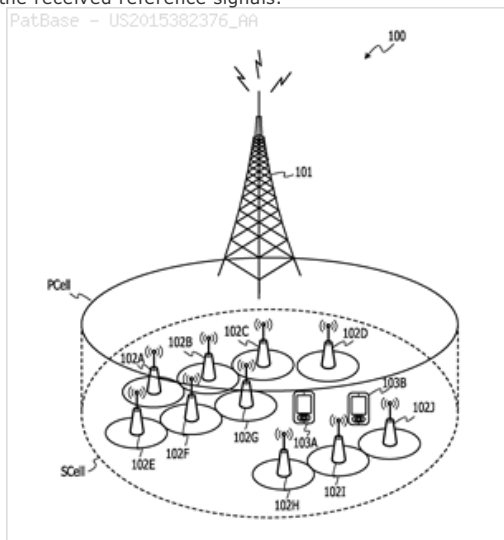
Abstract: A wireless communication method including: receiving a plurality of pieces of configuration information from a wireless station by a wireless terminal, each of the plurality of pieces of configuration information indicating each of the plurality of arrangements of radio resources reserved for transmitting reference signals specific to individual wireless terminals, receiving a specified signal relating to each use mode from the wireless station by the wireless terminal, each use mode indicating whether each of the plurality of arrangements of radio resources is used, receiving the reference signals from the wireless station by the wireless terminal based on the received specified signal, and demodulating radio signals received from the wireless station by the wireless terminal based on the received reference signals.

Classifications:

International (IPC 8-9): H04B7/02 H04L5/00 H04W16/28 H04W28/16 H04W72/04 H04W72/12 H04W76/02

CPC: H04B7/022 H04B7/024 H04L5/0035 H04L5/0044 H04L5/0048 H04L5/0053 H04L5/0073 H04L5/0078 H04L5/0094 H04W72/1289 H04W72/042

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105122916 A	20151202	CN201380075329	20130404
EP2983428 A1	20160210	EP20130881038	20130404
EP2983428 A4	20160413	EP20130881038	20130404
JP2014162357 A1	20170216	JP20150509600T	20130404
KR20150128772 A	20151118	KR20157027132	20130404
US2015382376 AA	20151231	US20150849114	20150909
WO14162357 A1	20141009	WO2013JP02351	20130404

Priority:

WO2013JP02351 20130404 US20150849114 20150909

Probable Assignee: FUJITSU LTD

Assignee(s): (std): FUJITSU LTD

Inventor(s): (std): TANAKA YOSHINORI

Agent(s): WARD JAMES NORMAN; YOKOYAMA JUNICHI

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 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 NETWORK NODE, WIRELESS DEVICE AND METHODS PERFORMED THEREIN

Abstract: A method performed by a radio network node for receiving reference signals from a wireless device in a wireless communications network is provided, the network node and the wireless device operating in the wireless communications network. The radio network node decides (901) whether reference signals to be sent by the wireless device shall be assigned

- (1) according to a first way by assigning the reference signals to channel resources in the same frequency allocation for subsequent Orthogonal Frequency-Division Multiplex, OFDM, symbols, or
- (2) according to a second way by assigning reference signals to channel resources in offset frequency allocations for subsequent OFDM symbols.

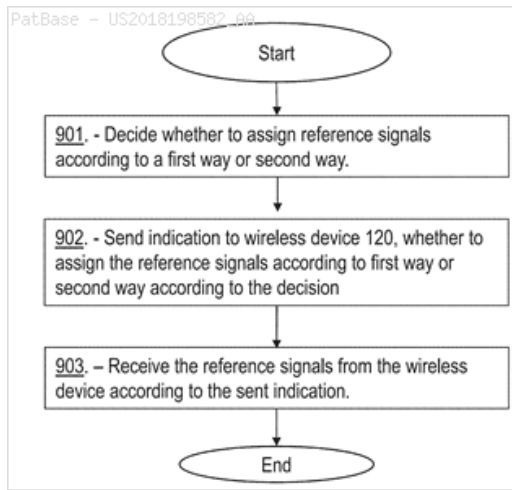
The radio network node then sends (902) an indication to the wireless device. The indication indicates whether to assign the reference signals according to the decided any one out of the first way and the second way.

Classifications:

International (IPC 8-9): H04B7/06 H04L25/02 H04L5/00 H04W72/04 H04W72/12

CPC: H04B7/0617 H04L25/0226 H04L5/0007 H04L5/0048 H04L5/0053 H04L5/0085 H04L5/0094 H04W72/0406 H04W72/121

US: 1/1 370/329

**Family:**

Publication number	Publication date	Application number	Application date
EP3248321 A1	20171129	EP20170717520	20170328
IN201737023674 A	20171201	IN201737023674	20170705
US2018198582 AA	20180712	US20170531970	20170328
WO17180040 A1	20171019	WO2017SE50294	20170328

Priority:

US20160322845P 20160415 WO2017SE50294 20170328 US20170531970 20170328

Probable Assignee: TELEFONAKTIEBOLAGET LM ERICSSON PUBL

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

Inventor(s): (std): ANDERSSON HAKAN ; FRENNE MATTIAS ; FURUSKOG JOHAN ; WIBERG NICLAS ; ZHANG QIANG

Agent(s): AYOUB NABIL; ERICSSON

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 KH 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

6) Family number: 77268791 (US2015195020 AA)

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Title: SYSTEMS, METHODS, AND DEVICES FOR HYBRID FULL-DIMENSIONAL MULTIPLE-INPUT MULTIPLE-OUTPUT

Abstract: According UE is configured to receive a channel state information reference signal (CSI-RS) from an evolved Universal Terrestrial Radio Access Network (E-UTRAN) Node B (eNB), determine channel state information based on the CSI-RS, and send the channel state information to the eNB. The channel state information includes a precoding matrix indicator corresponding to a first precoding matrix. The UE is also configured to receive a UE specific reference (UE-RS) signal and a physical downlink shared channel (PDSCH) signal. The UE-RS is precoded with a second precoding matrix. The UE estimates a UE-RS effective channel including the second precoding matrix based on the UE-RS and decodes data from the PDSCH signal based on an the first precoding matrix and the UE-RS effective channel.

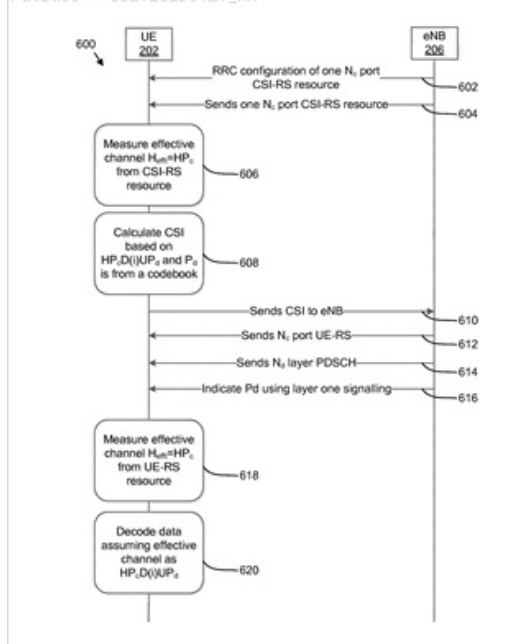
Classifications:

International (IPC 8-9): H04B17/00 H04B7/04 H04B7/0413 H04B7/0452 H04B7/0456 H04B7/06 H04J99/00 H04L25/02 H04L5/00 H04W16/28 H04W28/10 H04W88/02 H04W88/08

CPC: H04B7/0456 H04B7/0617 H04B7/0639 H04L1/0026 H04L25/0204 H04L5/0051 H04W88/02 H04W88/08 H04B7/0626

US: 1/1 370/329

PatBase - US2015195020_AA

**Family:**

Publication number	Publication date	Application number	Application date
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EP3092724 A1	20161116	EP20150733202	20150106
EP3092724 A4	20170906	EP20150733202	20150106
JP2017507523 T2	20170316	JP20160543111T	20150106
JP6325113 B2	20180516	JP20160543111T	20150106
KR101777533 B1	20170911	KR20167014961	20150106
KR20160083083 A	20160711	KR20167014961	20150106
TW201532402 A	20150816	TW20150100269	20150106
TWI551078 B	20160921	TW20150100269	20150106
US2015195020 AA	20150709	US20140498517	20140926
US9787376 BB	20171010	US20140498517	20140926
WO15103612 A1	20150709	WO2015US10326	20150106

Priority:

US20140924194P 20140106 US20140498517 20140926 WO2015US10326 20150106

Probable Assignee: INTEL CORP

Assignee(s): (std): INTEL CORP ; INTEL IP CORP

Assignee(s): APPLE INC

Inventor(s): (std): CHEN XIAO GANG ; LI QING HUA ; TU FANG ZE ; XUE FENG ; ZHU YUAN

Agent(s): BARKER AARON D; GODDAR HEINZ J; ITOH TADAHIKO; ITOH TADASHIGE; OHNUKI SHINSUKE; STOEL RIVES LLP

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

7) Family number: 62005993 (US2017272322 AA)

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Title: METHOD AND MTC DEVICE FOR RECEIVING DOWNLINK CHANNEL

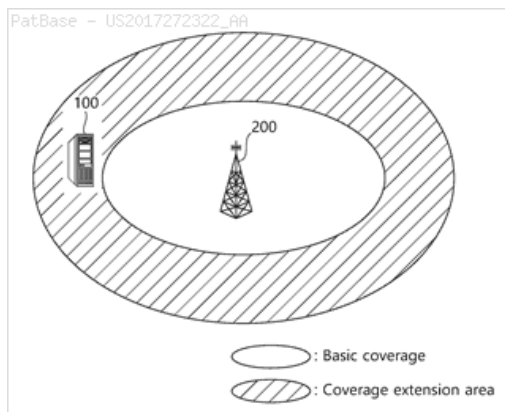
Abstract: Provided is a method for receiving a downlink control channel in a machine type communication (MTC) device. A method for receiving a downlink control channel can comprise the steps of: receiving first configuration information about an MTC device-operable subband among system bands of a cell; receiving second configuration information, about a subframe, for monitoring a downlink control channel in a cell-specific search space (CSS); and switching from a subband with respect to the first configuration information to a pre-configured cell-common subband and then receiving, in the cell-common subband in a subframe with respect to the second configuration information, a downlink control channel in the CSS and another channel.

Classifications:

International (IPC 8-9): H04J11/00 H04L12/24 H04L5/00 H04W72/04

CPC: H04L41/0853 H04L5/0053 H04L5/0055 H04L5/0057 H04L5/0092 H04W72/0413 H04W72/042

US: 1/1 455/450



Family:

Publication number	Publication date	Application number	Application date
US10382270 BB	20190813	US20150513946	20150924
US2017272322 AA	20170921	US20150513946	20150924
WO16048056 A1	20160331	WO2015KR10082	20150924

Priority:

US20140054997P 20140925 US20140073034P 20141031 US20140076466P 20141106
US20150149686P 20150420 WO2015KR10082 20150924 US20150513946 20150924

Probable Assignee: LG ELECTRONICS

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

Inventor(s): (std): AHN JOONKUI ; YANG SUCKCHEL ; YI YUNJUNG ; YOU HYANGSUN ; YUM KUNIL

Agent(s): LEE HONG DEGERMAN KANG 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 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

8) Family number: 62739586 (US2017134129 AA)

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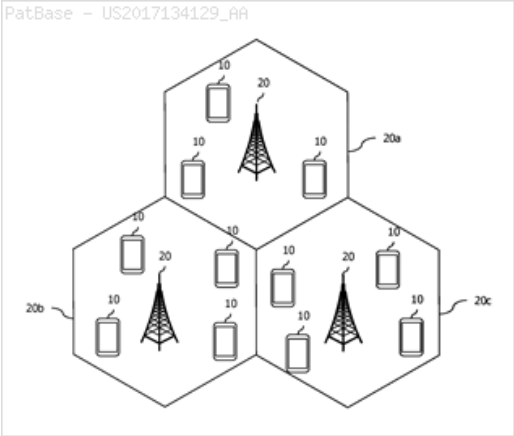
Title: METHOD AND MTC DEVICE FOR TRANSMITTING DMRS FOR UPLINK DATA DEMODULATION

Abstract: The present specification discloses a method for transmitting a demodulation reference signal (DMRS) for uplink

data demodulation by a machine type communication (MTC) device which is configured to operate in only a part of the system band of a cell. The method may comprise the steps of: mapping a DMRS sequence to 12 sub-carriers of a physical resource block (PRB); and dividing the PRB, to which the DMRS is mapped, into N sub-PRBs. Here, each of the sub-PRBs may comprise 12/N sub-carriers to which the DMRS is mapped. The method may further comprise a step for transmitting the N sub-PRBs to a base station in N sub-frames.

Classifications:

International (IPC 8-9): H04L27/26 H04L5/00 H04W4/00 H04W4/70
CPC: H04L25/0226 H04L27/2649 H04L5/001 H04L5/0023 H04L5/0044 H04L5/0048 H04L5/0051 H04L5/0094 H04W4/70
US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
DE602015029576 D1	20190523	DE201560029576T	20151203
EP3236609 A1	20171025	EP20150870224	20151203
EP3236609 A4	20180815	EP20150870224	20151203
EP3236609 B1	20190501	EP20150870224	20151203
US10469222 BB	20191105	US20150317332	20151203
US2017134129 AA	20170511	US20150317332	20151203
WO16099057 A1	20160623	WO2015KR13166	20151203

Priority:

US20140092808P 20141216 EP20150870224 20151203 WO2015KR13166 20151203
US20150317332 20151203

Probable Assignee: LG ELECTRONICS

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

Inventor(s): (std): YI YUNJUNG ; YOU HYANGSUN

Agent(s): BIRCH STEWART KOLASCH AND BIRCH LLP; FRENKEL MATTHIAS ALEXANDER; S AND IP PATENT AND LAW FIRM; WUESTHOFF AND WUESTHOFF PATENTANWAELTE PARTG MBB

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

9) Family number: 65471166 (US2018288711 AA)

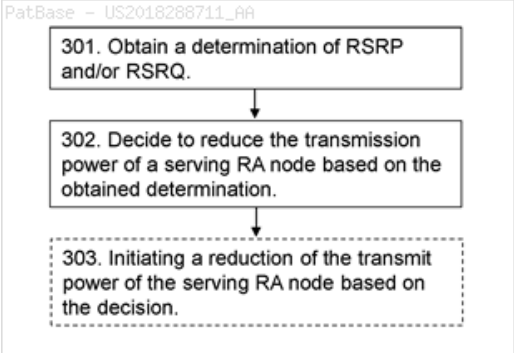
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Title: NETWORK NODE AND METHOD FOR MANAGING TRANSMIT POWER

Abstract: Method performed by a network node for reducing interference in neighboring cells. The network node operates in a communication network, which is adapted to wirelessly serve a UE via a serving Radio Access, RA, node. The network node obtains a determination of at least one of Reference Signal Received Power, RSRP, and Reference Signal Received Quality, RSRQ, from the serving RA node as received by the UE and a determination of at least one of RSRP and RSRQ from a neighboring RA node as received by the UE, when the UE is connected to the serving RA node. The network node further decides to reduce a transmit power of the serving RA node serving the connected UE, when the determined RSRP and/or RSRQ of the serving RA node is higher than the RSRP and/or RSRQ of the neighboring RA node, in order to reduce the interference in neighboring cells caused by the serving RA node.

Classifications:

International (IPC 8-9): H04W52/02 H04W52/14 H04W52/20 H04W52/24 H04W52/26
CPC: H04W52/0206 H04W52/143 H04W52/20 H04W52/243 H04W52/262 Y02D30/70
US: 1/1 455/522



Family:

Publication number	Publication date	Application number	Application date
DE602015048670 D1	20200402	DE201560048670T	20151015
EP3363242 A1	20180822	EP20150791048	20151015
EP3363242 B1	20200311	EP20150791048	20151015
IN201817010930 A	20180713	IN201817010930	20180324
US10694474 BB	20200623	US20150768158	20151015

US2018288711 AA	20181004	US20150768158	20151015
WO17065655 A1	20170420	WO2015SE51090	20151015

Priority:

EP20150791048 20151015 WO2015SE51090 20151015

Probable Assignee: TELEFONAKTIEBOLAGET L M ERICSSON PUBL

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

Inventor(s): (std): BETTER DAVID ; LAGERQVIST TOMAS ; NORDLUND PETER ; PARAVATI ANTHONY

Agent(s): BRANN AB; ERICSSON; PATENT PORTFOLIO BUILDERS PLLC; SJOEBERG MATS

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

10) Family number: 59005533 (US2016249297 AA)

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Title: METHOD AND APPARATUS FOR TRANSMIT SIGNAL POWER CONTROL AND DISCOVERY SIGNAL RESOURCE MULTIPLEXING IN WIRELESS COMMUNICATION SYSTEM

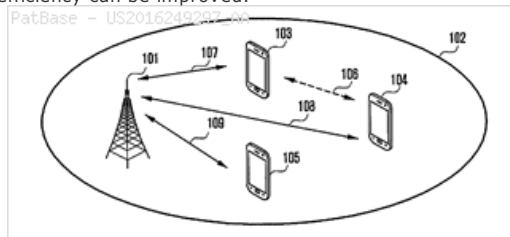
Abstract: A method for transmitting and receiving a signal in a base station of a mobile communication system according to an embodiment of the present specification comprises the steps of: generating power control information for device to device (D2D) communication for a terminal; and transmitting, to the terminal, a message including an indicator indicative of a power control mode of the terminal in accordance with the generated power control information. In accordance with a method for controlling transmit power of a terminal and a method for selecting a transmit resource in a mobile communication system provided in an embodiment of the present specification, mutual interference between the device to device communication and cellular communication can be reduced, and the communication efficiency can be improved.

Classifications:

International (ipc 8-9): H04B7/06 H04L1/18 H04L5/26 H04W4/70 H04W48/16 H04W52/14 H04W52/24 H04W52/28 H04W52/30 H04W52/32 H04W52/38 H04W52/54 H04W72/04 H04W72/08 H04W76/02 H04W76/14 H04W8/00 H04W92/18

CPC: H04B7/0626 H04L1/1861 H04L5/26 H04W48/16 H04W52/143 H04W52/242 H04W52/243 H04W52/281 H04W52/30 H04W52/325 H04W52/383 H04W52/386 H04W72/0473 H04W76/14 H04W8/005

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
AU2014332694 AA	20160505	AU20140332694	20141006
AU2014332694 BB	20170413	AU20140332694	20141006
CN105637963 A	20160601	CN201480055568	20141006
CN105637963 B	20191213	CN201480055568	20141006
CN111093278 A	20200501	CN201911136144	20141006
EP3057367 A1	20160817	EP20140852036	20141006
EP3057367 A4	20170524	EP20140852036	20141006
EP3057367 B1	20200219	EP20140852036	20141006
EP3637921 A1	20200415	EP20190213244	20141006
IN201637011941 A	20160826	IN201637011941	20160405
JP2016539538 T2	20161215	JP20160521772T	20141006
JP6406589 B2	20181017	JP20160521772T	20141006
KR20150041497 A	20150416	KR20130120103	20131008
US10506521 BB	20191210	US20140028159	20141006
US2016249297 AA	20160825	US20140028159	20141006
US2020092821 AA	20200319	US20190687162	20191118
WO15053514 A1	20150416	WO2014KR09367	20141006

Priority:

KR20130120103 20131008 WO2014KR09367 20141006 CN201480055568 20141006
EP20140852036 20141006 US20160028159 20160408 US20190687162 20191118

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

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

Assignee(s): SAMSUNG ELECTRONICS CO

Inventor(s): (std): JI HYOUNG JU ; KWAK YONG JUN ; LEE HYU JIN ; OH JIN YOUNG

Agent(s): FARRELL LAW FIRM PC; GRIFFITH HACK; 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 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

11) Family number: 67145853 (US2019124628 AA)

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Title: METHOD AND BASE STATION FOR CONFIGURING NON-ANCHOR PHYSICAL RESOURCE BLOCK, AND METHOD AND USER EQUIPMENT FOR DETERMINING LOCATION OF NON-ANCHOR PHYSICAL RESOURCE BLOCK

Abstract: The present invention provides a method for configuring a non-anchor PRB executed at a base station, comprising: configuring a non-anchor PRB for a user equipment (UE) for unicast data transmission, wherein the non-anchor

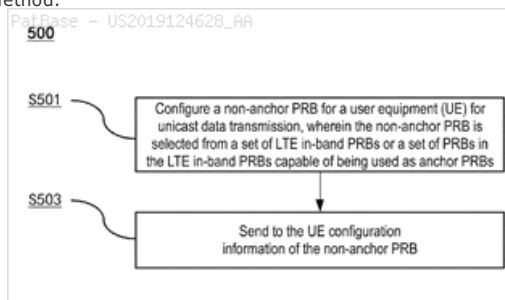
PRB is selected from a set of Long Term Evolution (LTE) in-band PRBs or a set of PRBs in the LTE in-band PRBs capable of being used as anchor PRBs; and sending to the UE configuration information of the non-anchor PRB. The present invention further provides a base station for executing the method, a method for determining a location of a non-anchor physical resource block (PRB) executed at a UE, and a UE for executing the method.

Classifications:

International (IPC 8-9): H04L5/00 H04W4/00 H04W4/50 H04W4/70 H04W72/04 H04W84/04

CPC: H04L5/0007 H04L5/0042 H04L5/0044 H04L5/0048 H04L5/0091 H04W4/50 H04W4/70 H04W72/042 H04W72/044 H04W84/042

US: 1/1



Family:

Publication number	Publication date	Application number	Application date
AU2017240847 AA	20181101	AU20170240847	20170210
CN107294684 A	20171024	CN201610203788	20160401
EP3439389 A1	20190206	EP20170772962	20170210
EP3439389 A4	20191023	EP20170772962	20170210
MX2018011667 A1	20190110	MX20180011667	20170210
RU2018136381 A	20200512	RU20180136381	20170210
RU2018136381 A3	20200529	RU20180136381	20170210
US10772089 BB	20200908	US20170090209	20170210
US2019124628 AA	20190425	US20170090209	20170210
WO17166931 A1	20171005	WO2017CN073240	20170210

Priority:

CN201610203788 20160401 WO2017CN073240 20170210 RU20180136381 20170210

Probable Assignee: FG INNOVATION CO LTD

Assignee(s): (std): FG INNOVATION CO LTD ; SHARP CORP ; SHARP KK ; XIAO FANGYING

Inventor(s): (std): FANGYING XIAO ; LIU RENMAO ; RENMAO LIU ; XIAO FANGYING

Agent(s): CHINA SCIENCE PATENT AND TRADEMARK AGENT LTD; DAVIES COLLISON CAVE PTY LTD; MUELLER HOFFMANN AND PARTNER; SCIENBIZIP PC

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 KH 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

12) Family number: 61254695 (US2016366697 AA)

© PatBase

Title: METHOD AND APPARATUSES FOR OPERATING A WIRELESS COMMUNICATION NETWORK

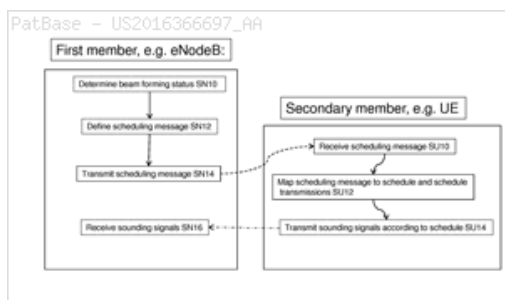
Abstract: There are also disclosed associated devices and methods.

Classifications:

International (IPC 8-9): H04B7/0452 H04B7/06 H04L27/26 H04L5/00 H04W16/28 H04W72/04 H04W72/12 H04W88/12

CPC: H04B7/0617 H04L27/2601 H04L5/0023 H04L5/0051 H04W72/1268

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
BR112016028860 A2	20170822	BR20161128860	20150623
CN106464477 A	20170222	CN201580031718	20150623
CN106464477 B	20200121	CN201580031718	20150623
EP3161988 A1	20170503	EP20150738150	20150623
JP2017528020 T2	20170921	JP20160574906T	20150623
JP6466973 B2	20190206	JP20160574906T	20150623
US10750525 BB	20200818	US20150771688	20150623
US2016366697 AA	20161215	US20150771688	20150623
WO15199603 A1	20151230	WO2015SE50729	20150623

Priority:

US20140016358P 20140624 WO2015SE50729 20150623 US20150771688 20150623

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

Inventor(s): (std): AHLIN HENRIK ; ANDERSSON H KAN ; ANDERSSON HAKAN ; FRENNE MATTIAS ; FURUSKOG JOHAN ; HAKAN ANDERSSON ; HENRIK SAHLIN ; JOHAN FURUSKOG ; MATTIAS FRENNE ; PARKVALL STEFAN ;

QIANG ZHANG ; SAHLIN HENRIK ; STEFAN PARKVALL ; ZHANG QIANG

Agent(s):

BOU FAICAL ROGER; ERICSSON; MURPHY BILAK AND HOMILLER PLLC

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

13) Family number: 65708112 (US2017272213 AA)

© PatBase

Title: METHOD AND APPARATUS FOR WIRELESS COMMUNICATION

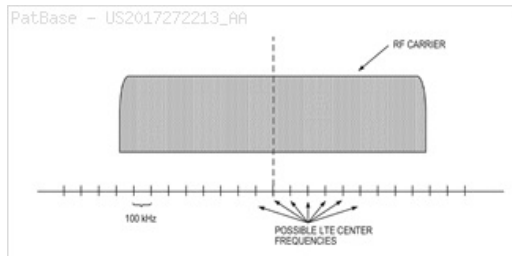
Abstract: Teachings herein improve the choice of carrier placement in a wireless communication network by de-coupling the carrier raster from the subcarrier grid. Recognizing that the placement of a carrier by its center frequency is an artificial construct, it is re-defined and the carrier placement is instead defined by the carrier position, which is on a carrier raster (e.g., 100 kHz), but in general does not have to be the center of the carrier. Second, a subcarrier grid is defined that is common for all RF carriers and spanning a range of frequencies, at least within an operating band, and provides orthogonality for subcarriers within all RF carriers regardless of carrier position. Third, a unique mapping from the carrier position on the RF carrier raster to a subcarrier reference position, e.g., the DC subcarrier, is defined, which in turn identifies the exact position of the RF carrier on the subcarrier grid.

Classifications:

International (IPC 8-9): H04L27/26 H04L5/00 H04W4/00 H04W72/04 H04W88/08

CPC: H04L27/2602 H04L27/2634 H04L5/0007 H04L5/001 H04L5/003 H04W72/0406 H04W72/0453 H04W88/08

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
CA3003390 AA	20180426	CA20163003390	20161019
CA3003390 C	20200428	CA20163003390	20161019
DE602016015713 D1	20190718	DE201660015713T	20161019
DE602016040647 D1	20200813	DE201660040647T	20161019
EP3375121 A1	20180919	EP20160791121	20161019
EP3375121 B1	20190619	EP20160791121	20161019
EP3528426 A1	20190821	EP20190168080	20161019
EP3528426 B1	20200722	EP20190168080	20161019
RU2693036 C1	20190701	RU20180120764	20161019
US10516510 BB	20191224	US20160316204	20161019
US2017272213 AA	20170921	US20160316204	20161019
US2020076549 AA	20200305	US20190675835	20191106
WO17082795 A1	20170518	WO2016SE51017	20161019

Priority:

US20150253901P 20151111 WO2016SE51017 20161019 EP20160791121 20161019
EP20190168080 20161019 US20160316204 20161019 US20160316204 20161205
US20190675835 20191106

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): BALDEMAIR ROBERT ; BJORKEGREN HAKAN ; SKOLD JOHAN

Inventor(s): (std): BALDEMAIR ROBERT ; BJORKEGREN HAKAN ; BJORKEGREN HAKAN ; SKOELD JOHAN ; SKOLD JOHAN

Agent(s): BOU FAICAL ROGER; ERICSSON; ERICSSON CANADA PATENT GROUP; MARKS AND CLERK; MURPHY BILAK AND HOMILLER PLLC; SOYUZPATENT OOO

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 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

14) Family number: 58497871 (US2016149677 AA)

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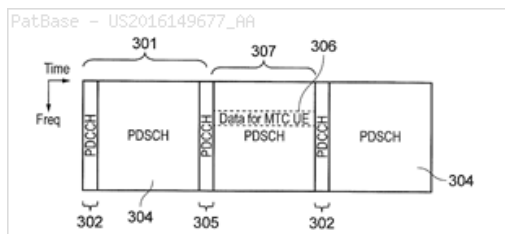
Title: USER DEVICE FOR COMMUNICATING DATA AND METHOD

Abstract: A user device to transmit and receive data to and from an infrastructure equipment via a wireless access interface using a plurality of Orthogonal Frequency Division Multiplexing (OFDM) subcarriers extending across at least a first bandwidth. The infrastructure equipment transmits repeatedly signals representing a same instance of user device payload data in a second bandwidth, the second bandwidth being less than and within the first bandwidth and including a subset of the OFDM subcarriers. The user device is configured to receive one or more of the signals repeatedly transmitted across the second bandwidth and to store in a memory signals representing the repeatedly transmitted signals received across the second bandwidth. The user device is also configured to combine the stored signals and to detect the user device payload data from the combined signals, the user device having been provided with an indication of the second bandwidth.

Classifications:

International (IPC 8-9): H04J11/00 H04L1/02 H04L1/04 H04L1/08 H04L27/26 H04L29/02 H04L5/00 H04W4/00 H04W4/04 H04W4/38 H04W4/70 H04W72/04

CPC: H04L1/02 H04L1/04 H04L1/08 H04L5/0007 H04W4/70 H04W72/042 H04W72/048 H04L27/2602 H04L5/0044 H04W4/005

**Family:**

Publication number	Publication date	Application number	Application date
CA2919920 AA	20160129	CA20142919920	20140716
CN105453470 A	20160330	CN201480044881	20140716
CN105453470 B	20190503	CN201480044881	20140716
EP3031157 A1	20160615	EP20140739461	20140716
EP3031157 B1	20200909	EP20140739461	20140716
IN201617002534 A	20160805	IN201617002534	20160122
JP2016534613 T2	20161104	JP20160532292T	20140716
JP6485816 B2	20190320	JP20160532292T	20140716
KR20160040558 A	20160414	KR20167003063	20140716
TW201513617 A	20150401	TW20140121895	20140625
TWI663857 B	20190621	TW20140121895	20140625
US2016149677 AA	20160526	US20140904562	20140716
US9973308 BB	20180515	US20140904562	20140716
US10560231 BB	20200211	US20180953862	20180416
US2018234218 AA	20180816	US20180953862	20180416
WO15018617 A1	20150212	WO2014EP65296	20140716

Priority:

EP20130179486 20130806 WO2014EP65296 20140716 EP20140739461 20140716
 US20160904562 20160112 US20180953862 20180416

Probable Assignee: SONY CORP**Assignee(s):** (std): SONY CORP ; SONY EUROPE LTD**Assignee(s):** MORIOKA YUICHI**Inventor(s):** (std): MORIOKA YUICHI**Agent(s):** D YOUNG AND CO LLP; DEVILE JONATHAN; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; HAGIWARA YASUSHI; KAMEYA YOSHIKI; KANEMOTO TETSUO; OBLON MCCLELLAND MATER AND NEUSTADT LLP; XSENSUS LLP**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**15) Family number: 64665233** (CN106332296 A)

© PatBase

Title: METHOD FOR SCHEDULING RADIO RESOURCES IN CAR-MOUNTED COMMUNICATION SYSTEM

Abstract: The invention provides a method for scheduling radio resources in a car-mounted communication system. All car nodes in a V2X network execute the following operation that a car node set competing with the car nodes for the same resource block in neighbor car nodes is acquired, whether the car nodes can succeed or not in the competition of the corresponding resource block is judged through a random selection function, and if the competition succeeds, data to be transmitted is transmitted through the competed resource block; if the car nodes fail in the competition, the currently competed resource block is given up, and the car nodes continue to compete for the next resource block till the car nodes succeed in the competition. Concentrated resource scheduling is not needed, distributed resource scheduling can be carried out according to information of the car nodes and information of the neighbor car nodes, therefore, the use efficiency of the resources is improved, and conflicts in the communication process are avoided as much as possible.

Classifications:**International (IPC 8-9):** H04W72/12**CPC:** H04W72/1205

EP3280210 A1	20180207	EP20150887170	20150821
EP3280210 A4	20180411	EP20150887170	20150821
US10631310 BB	20200421	US20150563885	20150821
US2018124804 AA	20180503	US20150563885	20150821
US2020252946 AA	20200806	US20200854001	20200421
WO16155213 A1	20161006	WO2015C087838	20150821

Priority:

CN201510147334 20150331 WO2015CN087838 20150821 US20170563885 20171002
US20200854001 20200421

Probable Assignee: XI AN ZHONGXING NEW SOFTWARE CO LTD

Assignee(s): (std): XI AN ZHONGXING NEW SOFTWARE CO LTD ; ZTE CORP

Assignee(s): XI AN ZHONGXING NEW SOFTWARE CO

Inventor(s): (std): LV KAIYING ; LYU KAIYING ; SUN BEI ; SUN BO ; TIAN KAIBEI ; TIAN KAIBO ; XING WEIMIN ; YAO KE

Agent(s): CANTOR COLBURN LLP; KANGXIN PARTNERS PC; MOZZI MATTEO

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

17) Family number: 55881608 (US2015063177 AA)

© PatBase

Title: METHOD AND DEVICE FOR TRANSMITTING CHANNEL STATE INFORMATION IN WIRELESS COMMUNICATION SYSTEM

Abstract: The present invention relates to a wireless communication system. A method for transmitting channel state information (CSI) by a user equipment in a wireless communication system includes receiving a CSI-reference signal (CSI-RS), determining overhead of a common reference signal (CRS) resource element based on the same antenna port number as an antenna port number associated with the CSI-RS, and transmitting the CSI calculated based on the CSI-RS and the overhead of the CRS resource element.

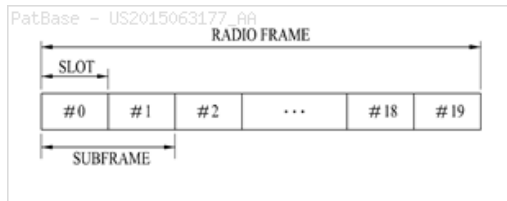
Classifications:

International (ipc 8-9): H04B7/02 H04B7/024 H04B7/04 H04B7/06 H04B7/24 H04B7/26 H04J11/00 H04J99/00 H04L5/00 H04L5/14 H04W16/28 H04W24/10 H04W28/16 H04W4/00 H04W72/04

International (ipc 1-7): H04B7/04 H04B7/26 H04W24/10

CPC: H04B7/024 H04B7/04 H04B7/0626 H04B7/0632 H04B7/26 H04L5/00 H04L5/0023 H04L5/0035 H04L5/0048 H04L5/0053 H04L5/14 H04L5/1469 H04W24/10

US: 1/1 370/280 370/329



Family:

Publication number	Publication date	Application number	Application date
AU2013306572 AA	20141016	AU20130306572	20130820
AU2013306572 BB	20150416	AU20130306572	20130820
CN104584625 A	20150429	CN201380044429	20130820
CN104584625 B	20180803	CN201380044429	20130820
EP2890177 A1	20150701	EP20130831761	20130820
EP2890177 A4	20160330	EP20130831761	20130820
EP2890177 B1	20191002	EP20130831761	20130820
ID201701629 A	20170303	ID2015P0001556	20130820
IN00434MN2015 A	20160122	IN2015MN00434	20150302
IN336765 B	20200515	IN2015MN00434	20150302
JP2015531211 T2	20151029	JP20150527394T	20130820
JP5953436 B2	20160720	JP20150527394T	20130820
JP2016197871 A2	20161124	JP20160116851	20160613
JP6263578 B2	20180117	JP20160116851	20160613
KR101662088 B1	20161004	KR20157003204	20130820
KR20150043308 A	20150422	KR20157003204	20130820
RU2015109624 A	20161010	RU20150109624	20130820
RU2600569 C2	20161027	RU20150109624	20130820
US2015063177 AA	20150305	US20130384137	20130820
US9509471 BB	20161129	US20130384137	20130820
US2017085350 AA	20170323	US20160343816	20161104
US9749106 BB	20170829	US20160343816	20161104
VN22476 A1	20191225	VN20150000936	20150320
WO14030904 A1	20140227	WO2013KR07454	20130820

Priority:

US20120691767P 20120821 WO2013KR07454 20130820 JP20150527394T 20130820
US20130384137 20130820 US20140384137 20140909 JP20160116851 20160613
US20160343816 20161104

Probable Assignee: LG ELECTRONICS

Assignee(s): (std): EL DZHI ELEKTRONIKS INK ; LG ELECTRONICS ; LG ELECTRONICS INC

Inventor(s): (std): KIM EUN SUN ; KIM HYUNG TAE ; KIM KI JUN ; PARK JEONG HYUN ; PARK JONG HYUN

Agent(s): GRIFFITH HACK; KIM YONG IN ET AL; LEE HONG DEGERMAN KANG AND WAIMEY; LEE HONG DEGERMAN KANG WAIMEY; NADIA AM BADAR SH; TER MEER STEINMEISTER AND PARTNER; URNER PETER; WATERMARK INTELLECTUAL PROPERTY PTY LTD; WATERMARK PATENT AND TRADE MARKS ATTORNEYS

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

18) Family number: 62235724 (US2016127936 AA)

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Title: USER EQUIPMENT AND METHODS FOR CSI MEASUREMENTS WITH REDUCED BANDWIDTH SUPPORT

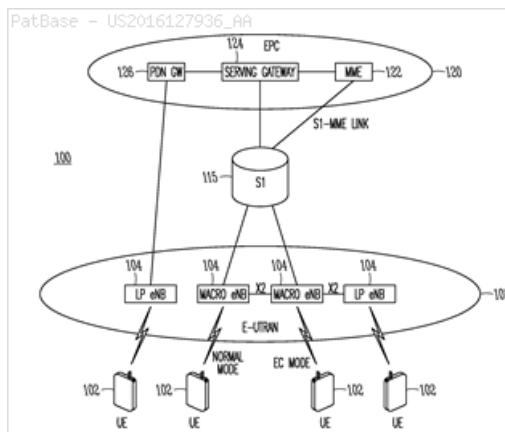
Abstract: An enhanced NodeB (eNB), user equipment (UE) and method of Channel State Information (CSI) measurement and reporting using reduced bandwidth are generally described herein. The UE is preconfigured with a resource configuration information or the configuration information is transmitted to the UE from the eNB. The configuration information indicates a narrowband region on which to monitor for and receive physical downlink control and data channels and perform measurements for CSI computation. The region has a reduced bandwidth that is supported by the UE and is free from subbands outside of the region. The UE takes measurements of downlink transmissions using the assigned resources. The measurements are limited to subbands included within the region. The UE calculates the CSI based on an unrestricted time interval within subframes of the region and a restricted frequency interval free from physical resource blocks outside the region. The UE reports a region-specific wideband CSI that includes at least a region-specific wideband Channel Quality Indicator to the eNB.

Classifications:

International (IPC 8-9): H04B H04B7/06 H04L1/00 H04L5/00 H04W H04W24/00 H04W24/10 H04W4/00

CPC: H04B7/0626 H04B7/0632 H04W24/00 H04W4/70

US: 370/252

**Family:**

Publication number	Publication date	Application number	Application date
CN107005297 A	20170801	CN201580056944	20151005
HK1241151 A1	20180601	HK20180100424	20180112
US2016127936 AA	20160505	US20150711866	20150514
WO16073099 A1	20160512	WO2015US53947	20151005

Priority:

US20140075722P 20141105 US20150711866 20150514 WO2015US53947 20151005

Probable Assignee: INTEL CORP

Assignee(s): (std): CHATTERJEE DEBDEEP ; DAVYDOV ALEXEI ; HAN SEUNGHEE ; INTEL CORP ; INTEL IP CORP ; XIONG GANG ; ZHU YUAN

Inventor(s): (std): CHATTERJEE DEBDEEP ; DAVYDOV ALEXEI ; HAN SEUNGHEE ; XIONG GANG ; ZHU YUAN

Agent(s): ORIENTAL INTELLECTUAL PROPERTY SERVICES CO; SCHEER BRADLEY W 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

19) Family number: 55898903 (US2014064135 AA)

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Title: RECEPTION OF DOWNLINK DATA FOR COORDINATED MULTI-POINT TRANSMISSION IN THE EVENT OF FALL-BACK

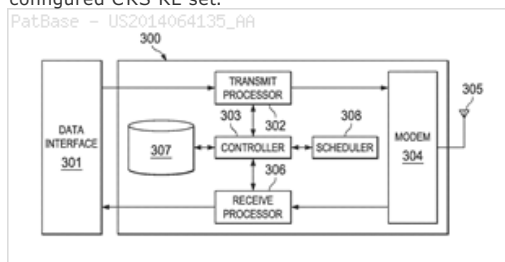
Abstract: Systems and methods for fall-back rate-matching and timing for user equipment (UE) configured for downlink (DL) Coordinated Multi-Point Transmission (CoMP) are disclosed. In one embodiment, when a UE configured in DL CoMP receives a fall-back transmission, PDSCH is rate-matched around the serving cell CRS. In an alternative embodiment, when a UE configured in DL CoMP receives a fall-back transmission, PDSCH is rate-matched or uses timing around one of the cell-specific reference symbol (CRS) resource element (RE) set indicated by RRC-higher layer signaling. For example, PDSCH may be rate-matched or use timing around the first RRC higher layer configured CRS RE set.

Classifications:

International (IPC 8-9): H04B7/02 H04B7/024 H04B7/04 H04L1/00 H04L27/26 H04W28/16 H04W28/22 H04W72/04 H04W72/08 H04W72/12 H04W76/04 H04W76/27

CPC: H04B7/024 H04L1/0046 H04W28/22 H04W72/042 H04W72/085 H04W72/1226 H04W76/27

US: 370/253 370/328 370/329

**Family:**

Publication number	Publication date	Application number	Application date
CN104584452 A	20150429	CN201380044962	20130828
CN104584452 B	20190215	CN201380044962	20130828

CN110048806 A	20190723	CN201910030655	20130828
JP2015530826 T2	20151015	JP20150530001T	20130828
JP6412000 B2	20181024	JP20150530001T	20130828
US2014064135 AA	20140306	US20130970546	20130819
US10785758 BB	20200922	US20160070835	20160315
US2016198443 AA	20160707	US20160070835	20160315
WO14036154 A1	20140306	WO2013US57108	20130828

Priority:

US20120693854P 20120828 US20130970546 20130819 WO2013US57108 20130828
CN201380044962 20130828 US20160070835 20160315

Probable Assignee: TEXAS INSTRUMENTS INC

Assignee(s): (std): TEXAS INSTRUMENTS INC ; TEXAS INSTRUMENTS JAPAN ; TEXAS INSTRUMENTS INC

Assignee(s): TEXAS INSTRUMENTS ; TEXAS INSTRUMENTS JAPAN LTD

Inventor(s): (std): CHEN RUNHUA ; R CHEN

Agent(s): ALBIN GREGORY J; BRILL CHARLES A; CIMINO FRANK D; FRANZ WARREN L 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

20) Family number: 62828749 (US2017373794 AA)

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Title: METHOD AND APPARATUS FOR PERFORMING UPLINK TRANSMISSION FOR USER EQUIPMENT REQUIRING COVERAGE ENHANCEMENTS IN WIRELESS COMMUNICATION SYSTEM

Abstract: A method and apparatus for transmitting uplink (UL) data in a wireless communication system is provided. For one embodiment, a user equipment (UE), adds short cyclic redundancy check (CRC) per each fragment, which consists of a transport block for the UL data, and transmits the UL data to a network. For another embodiment, the UE selects one physical uplink control channel (PUCCH) format, which is used to carry uplink control information (UCI), among multiple PUCCH formats, and transmits the UL data to a network by using the one PUCCH format.

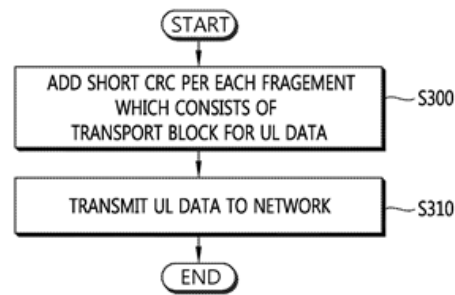
Classifications:

International (IPC 8-9): H04L1/00 H04L5/00 H04W4/00 H04W4/70

CPC: H04L1/0042 H04L1/0061 H04L1/0073 H04L5/0053 H04W4/70

US: 1/1 714/752

PatBase - US2017373794_AA



Family:

Publication number	Publication date	Application number	Application date
US10298359 BB	20190521	US20150540154	20151228
US2017373794 AA	20171228	US20150540154	20151228
WO16108556 A1	20160707	WO2015KR14367	20151228

Priority:

US20140097082P 20141228 WO2015KR14367 20151228 US20150540154 20151228

Probable Assignee: LG ELECTRONICS

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

Inventor(s): (std): YI YUNJUNG

Agent(s): DENTONS US 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 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