

1) Family number: 53429021 (US2014321406A)

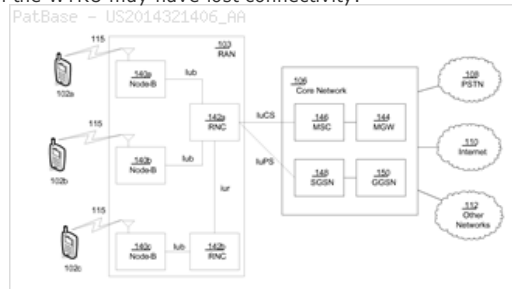
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Title: MULTIPOINT TRANSMISSION IN WIRELESS COMMUNICATION

Abstract: Embodiments contemplate wireless transmit/receive unit (WTRU) transmissions of different types of uplink channels and/or signals in a system deployment where multiple destination points may exist. Some embodiments contemplate that a WTRU may select the destination point of a transmission on a dynamic basis. In one or more systems where destination point selection from among multiple potential destination points may be possible for a WTRU transmission, some embodiments contemplate the determination of the handling of hybrid automatic repeat request (HARQ) retransmissions and for different power headroom reporting mechanisms. Embodiments also contemplate the reduction and/or inhibition of WTRU transmissions to destination points to which the WTRU may have lost connectivity.

Classifications:

International (IPC 8-9): H04B H04B1/38 H04B7/02 H04B7/024 H04B7/08 H04B7/26 H04J11/00 H04J99/00 H04L1/18 H04L29/02 H04W H04W16/28 H04W28/04 H04W28/16 H04W52/08 H04W52/14 H04W52/38 H04W72/04 H04W72/12 (Advanced/Invention)
CPC: H04B7/0802 H04W52/365 H04W72/0413 H04B7/024 H04W52/146 H04B7/2603
US: 370/329



Family:

Publication number	Publication date	Application number	Application date
BR112014007765 A2	20170411	BR20141107765	20120930
CN103891166 A	20140625	CN201280048314	20120930
CN108809364 A	20181113	CN201810338270	20120930
EP2761780 A1	20140806	EP20120772682	20120930
HK1195682 A1	20141114	HK20140108795	20140829
JP2014532355 T2	20141204	JP20140533459T	20120930
JP2016027763 A2	20160218	JP20150207430	20151021
JP2018026884 A2	20180215	JP20170222943	20171120
JP6068479 B2	20170125	JP20140533459T	20120930
JP6248082 B2	20171213	JP20150207430	20151021
KR20140071479 A	20140611	KR20147011799	20120930
RU2014117663 A	20151210	RU20140117663	20120930
RU2654052 C2	20180516	RU20140117663	20120930
TW201347423 A	20131116	TW20120136254	20121001
TW201731232 A	20170901	TW20170100893	20121001
TWI591971 B	20170711	TW20120136254	20121001
US2014321406 AA	20141030	US20120348866	20120930
WO13049769 A1	20130404	WO2012US58186	20120930

Priority:

US20110542145P	20110930	US20120591789P	20120127	US20120604399P	20120228
US20120616256P	20120327	US20120644827P	20120509	US20120678437P	20120801
CN201280048314	20120930	JP20140533459T	20120930	JP20150207430	20120930
WO2012US58186	20120930	US20120348866	20120930	JP20150207430	20151021
JP20170222943	20171120				

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

Assignee(s): (std): INTERDIGITAL PEJTENT KOLDINGZ INK ; 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 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

2) Family number: 47308100 (US2012033630A)

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Title: METHOD AND APPARATUS FOR TRANSMITTING REFERENCE SIGNAL

Abstract: 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 H04B41821 H04B7/04 H04B7/06 H04B7/10 H04B7/14 H04B7/155 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 H04W4/00 H04W40/24 H04W52/14 H04W52/32 H04W52/58 H04W72/04 H04W92/12 (Advanced/Invention); H04L25/02 H04L27/26 H04L5/00 H04W40/24 H04W52/14 H04W52/32 H04W52/58 H04W84/04 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:

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IN307647 B	20190222	IN2012CN00645	20120118
JP2012524453 A2	20121011	JP20120505824	20100415
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JP5607807 B2	20141015	JP20130212555	20131010
JP5849133 B2	20160127	JP20140173386	20140828
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WO10120140 A2	20101021	WO2010KR02367	20100415
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WO11008057 A3	20110630	WO2010KR04696	20100719

Priority:

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US20160257159 20160906	US20160267539 20160916	

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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

3) Family number: 43508248 (US2009181687A)

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Title: SOUNDING REFERENCE SIGNAL ARRANGEMENT

Abstract: A method, apparatus, and computer program embodied on a computer-readable medium to create an uplink message to be transmitted to a base station, the created uplink message comprises a sounding reference signal based on accessed data. An uplink scheduling grant signal is received via downlink, from the base station, in response to the transmission of the uplink message. An uplink data transmission is transmitted to the base station responsive to the received uplink scheduling grant signal.

Classifications:

International (IPC 8-9): H04B7/00 H04B7/26 H04J11/00 H04J11/00 H04L H04L12/403 H04L12/42 H04L27/26 H04L5/00 H04W28/06 H04W28/20 H04W4/00 H04W72/00 H04W72/04 H04W72/12

H04W72/14 (Advanced/Invention);

H04B7/26 H04J11/00 (Advanced/Non-invention);

H04B7/00 H04L27/26 H04L5/00 H04W4/00

H04W72/00 (Core/Invention);

H04J11/00 (Core/Non-invention)

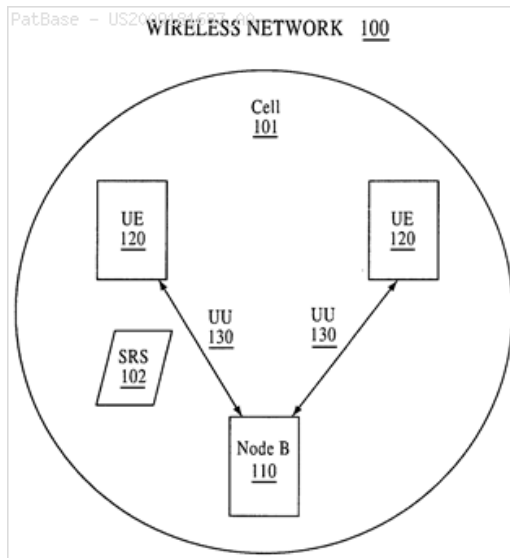
International (IPC 1-7): H04L5/00

CPC: H04L5/0016 H04L5/0048 H04L5/0053 H04L27/2613

H04W72/1278

European: H04L27/26M1R3 H04L5/00C5 T04L5/00A3A T04L5/00C6

US: 370/210 370/450 455/422.1 455/450 455/507 455/509



Family:

Publication number	Publication date	Application number	Application date
AU2009203740 AA	20090716	AU20090203740	20090108
AU2009203740 BB	20130808	AU20090203740	20090108
BRPI0907225 A2	20150714	BR2009PI07225	20090108
CA2710535 AA	20100622	CA20092710535	20090108
CA2710535 C	20151124	CA20092710535	20090108
CN101971550 A	20110209	CN200980108227	20090108
CN105553633 A	20160504	CN201511020830	20090108
EP2241049 A2	20101020	EP20090700636	20090108
EP2241049 B1	20190306	EP20090700636	20090108
EP2241049 B8	20190522	EP20090700636	20090108
IN04523DN2010 A	20101126	IN2010DN04523	20100622

IN312517 B	20190510	IN2010DN04523	20100622
JP2011512705 T2	20110421	JP20100541778T	20090108
JP2013255238 A2	20131219	JP20130143374	20130709
JP5580921 B2	20140827	JP20130143374	20130709
KR101175005 B1	20120820	KR20107017663	20090108
KR20100118575 A	20101105	KR20107017663	20090108
MX2010007510 A1	20101025	MX20100007510	20090108
RU2010132845 A	20120220	RU20100132845	20090108
RU2449480 C2	20120427	RU20100132845	20090108
US2009181687 AA	20090716	US20090318765	20090108
US8761195 BB	20140624	US20090318765	20090108
WO09087182 A2	20090716	WO2009EP50148	20090108
WO09087182 A3	20090903	WO2009EP50148	20090108
ZA201004358 A	20110330	ZA20100004358	20100621

Priority:

US20080006364P 20080108 US20080006364 20080108 US20080006901P 20080205
US20080006901 20080205 CN200980108227 20090108 JP20100541778 20090108
US20090318765 20090108 WO2009EP50148 20090108

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Inventor(s): TIIROLA ESA TAPANIFI ; HOOLI KARI JUHANIFI ; PAJUKOSKI KARI PEKKAFI

Agent(s): SPRUSON AND FERGUSON; SIM AND MCBURNEY; KOLSTER OY AB; SQUIRE SANDERS AND DEMPSEY LLP; SQUIRE SANDERS US LLP; 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

4) Family number: 46986250 (US2012008588A)

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

Abstract: 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 H04J11/00 H04J11/00 H04J13/00 H04J13/22 H04J3/00 H04J3/06 H04J99/00 H04L1/00 H04L1/16 H04L12/26 H04L25/02 H04L27/26 H04L27/28 H04L29/02 H04L29/06 H04L5/00 H04L5/06 H04L5/14 H04Q7/00 H04Q7/24 H04W24/00 H04W24/02 H04W24/10 H04W4/00 H04W48/12 H04W56/00 H04W72/00 H04W72/04 H04W72/12 H04W72/14 H04W76/04 H04W8/00 H04W88/02 H04W88/08 H04W92/00 (Advanced/Invention); H04B7/26 H04J11/00 H04J13/00 H04L1/00 H04L1/16 H04W24/10 H04W48/12 H04W72/00 H04W72/04 H04W72/12 H04W88/02 H04W92/00 (Advanced/Non-invention); H04B7/04 H04J11/00 H04L27/26 (Core/Invention)

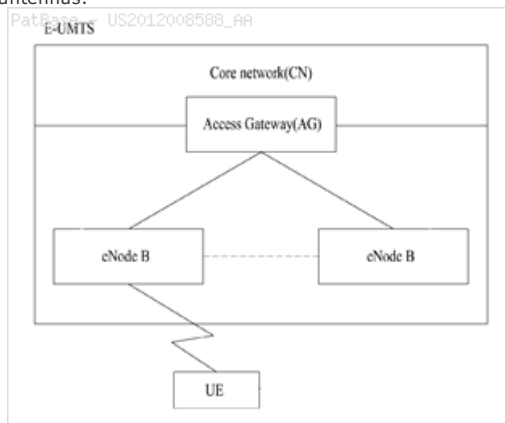
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US: 1/1 370/206 370/210 370/236 370/252 370/252P 370/280 370/328 370/329 370/329P 370/331 370/336 370/336P 370/338 370/474 370/503 455/403

Family:

Publication number	Publication date	Application number	Application date
AU2010248255 AA	20101118	AU20100248255	20100517
AU2010248255 BB	20130829	AU20100248255	20100517
AU2010296186 AA	20110324	AU20100296186	20100920
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Priority:

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US20100497293	20100920	WO2010KR06475	20100920	US20100508332	20101029
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US20150986282 20151231 US20170592479 20170511 US20180946344 20180405

Probable Assignee: LG ELECTRONICS

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

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

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

5) Family number: 54127318 (US2013155891A)

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Title: BEAMFORMING SIGNALING IN A WIRELESS NETWORK

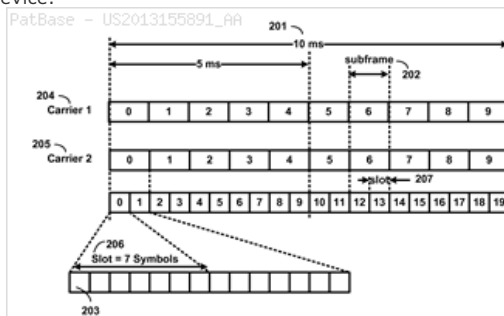
Abstract: A first base station receives a message from a second base station. The second base station comprises a downlink carrier comprising downlink resource blocks. The message comprises downlink beamforming information element indicating a beamforming codeword employed for a downlink resource block. 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 H04B7/0426 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 H04W36/00 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 H04B7/0478 H04B7/043 H04W36/30 H04W72/042 H04B7/0626 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 H04W72/0453 H04W36/0055 H04B7/0617 H04B7/046

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
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US20190264003	20190131				

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

6) Family number: 55623321 (US2014016576A)

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Title: CONTROLLING TRANSMIT POWER OF UPLINK SOUNDING REFERENCE SIGNAL

Abstract: The disclosure is related to controlling a transmit power of an uplink sounding reference signal.

Classifications:

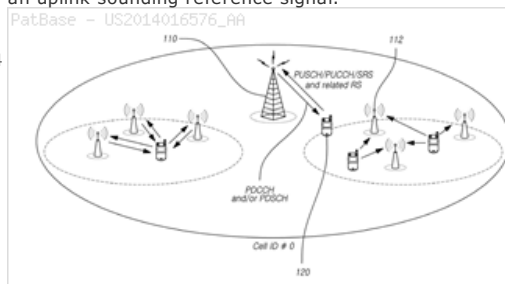
International (IPC 8-9): H04B1/04 H04B7/02 H04B7/024 H04J11/00 H04L5/00 H04W16/32 H04W4/00 H04W52/14 H04W52/16 H04W52/24 H04W52/32 H04W52/36 H04W52/38 H04W52/58

H04W72/04 (Advanced/Invention);

H04W52/32 (Advanced/Non-invention)

CPC: H04W52/362 H04W52/367 H04B7/024 H04W52/146 H04L5/0035 H04L5/0048 H04W52/36 H04W52/16 H04W52/247 H04W52/58 H04W52/325

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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KR20180014106	20180205				

Probable Assignee: GOOGLE INC

Assignee(s): (std): GOOGLE LLC ; KT CORP ; KT TECH INC

Assignee(s): GOOGLE INC ; KT CORPORATION ; GOOGLE LLC MOUNTAIN VIEW

Inventor(s): (std): NOH MIN SEOK ; NOH MINSEOK ; REO MIN SEOK

Agent(s): KASTEL PATENTANWALTE; KASTEL PATENTANWALTE PARTG MBB; ZARDI MARCO; OPENSHAW AND CO; TAKAHASHI HAYASHI AND PARTNER PATENT ATTORNEYS INC; IP LEGAL SERVICES LLC; KIM EUNGU 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 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

7) Family number: 59143327 (US2016241323A)
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Title: METHOD AND APPARATUS FOR TRANSMITTING SIGNAL IN WIRELESS COMMUNICATION SYSTEM

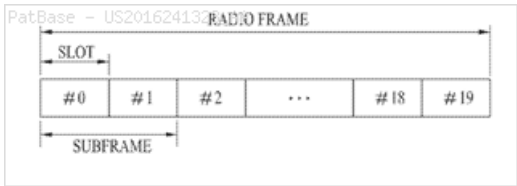
Abstract: The present invention relates to a wireless communication system. A method for transmitting a signal from a base station in a wireless communication system supporting multiuser-multiple input and multiple output (MU-MIMO), according to one embodiment of the present invention, comprises the steps of: generating beams of subgroups including a plurality of terminals using analog beamforming; differentiating signals transmitted to each of the terminals using digital beamforming; and transmitting, to the terminals, signals generated based on analog beamforming and digital beamforming, wherein the weight of analog beamforming may be determined based on channel state information obtained through an uplink reference signal.

Classifications:

International (ipc 8-9): H04B7/04 H04B7/0452 H04B7/06 H04J11/00 H04J99/00 H04L5/00 H04W16/28 H04W72/04 (Advanced/Invention)

CPC: H04B7/0452 H04B7/0626 H04B7/0617 H04L5/0048 H04W72/0413 H04L5/0023 H04B7/0469 H04B7/0691 H04B7/0695

US: 370/330 375/267



Family:

Publication number	Publication date	Application number	Application date
CN105684323 A	20160615	CN201480060402	20141104
EP3068060 A1	20160914	EP20140858304	20141104
EP3068060 A4	20171101	EP20140858304	20141104
JP2016539541 T2	20161215	JP20160522771T	20141104
KR20160082235 A	20160708	KR20167006604	20141104
US2016241323 AA	20160818	US20140029194	20141104
US2016261325 AA	20160908	US20140032036	20141104
US10084521 BB	20180925	US20140029194	20141104
WO15065152 A1	20150507	WO2014KR10503	20141104
WO15065154 A1	20150507	WO2014KR10514	20141104
WO15065155 A1	20150507	WO2014KR10515	20141104
WO15065156 A1	20150507	WO2014KR10516	20141104
WO15065157 A1	20150507	WO2014KR10517	20141104
WO15065158 A1	20150507	WO2014KR10519	20141104

Priority:

US20130899815P 20131104 US20130909370P 20131126 WO2014KR10514 20141104
US20140029194 20141104 WO2014KR10516 20141104 US20140032036 20141104

Probable Assignee: LG ELECTRONICS

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

Inventor(s): (std): BYUN ILMU ; KANG JIWON ; KO HYUNSOO ; CHUNG JAEHOON ; LEE KILBOM ; KIM KITAE ; CHUNG JAE HOON ; KO HYUN SOO ; BYUN IL MU ; LEE KIL BOM ; KANG JI WON

Agent(s): CABINET PLASSERAUD; 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 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

8) Family number: 53057335 (US2015271791A)
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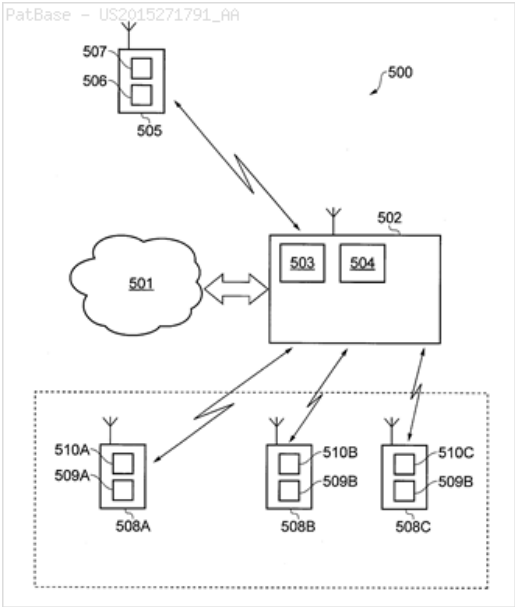
Title: MOBILE TERMINAL DEVICE AND ASSOCIATED METHOD FOR OBTAINING UPLINK RESOURCES

Abstract: A method of allocating radio resources for uplink transmissions in a wireless telecommunications system, the method including: a first terminal device communicating a request for an allocation of radio resources to a base station; the base station determining there is an association between the first terminal device and a second terminal device based on their having similar predicted traffic profiles for uplink data; and the base station establishing a radio resource allocation for the second terminal device based on the resources requested by the first terminal device, and consequently transmitting radio resource allocation messages to allocate radio resources to the first and the second terminal devices for respective uplink transmissions based on the request for an allocation of radio resources received from the first terminal device.

Classifications:

International (ipc 8-9): A47B87/02 A63H33/08 B65D21/02 H04W28/02 H04W4/00 H04W4/04 H04W48/02 H04W72/04 H04W72/08 H04W72/12 H04W74/00 H04W74/08 H04W76/00 (Advanced/Invention); H04W4/00 (Advanced/Non-invention)

CPC: H04W72/0413 H04W48/02 H04W74/008 H04W72/082 H04W28/0215 H04W76/00 H04W4/70 A47B87/0284 B65D21/0209 B65D21/0204 A63H33/086 A47B87/0292 H04W72/042 H04W72/0486



Family:

Publication number	Publication date	Application number	Application date
CN104885541 A	20150902	CN201380066696	20131021
CN104885541 B	20190426	CN201380066696	20131021
DE602013021024 D1	20170622	DE201360021024T	20131021
EP2936902 A1	20151028	EP20130783369	20131021
EP2936902 B1	20170510	EP20130783369	20131021
EP3190848 A1	20170712	EP20170153002	20131021
GB201222902 A0	20130130	GB20120022902	20121219
GB2509071 A1	20140625	GB20120022902	20121219
GB2509071 B2	20180711	GB20120022902	20121219
JP2016509768 T2	20160331	JP20150548744T	20131021
KR20150096667 A	20150825	KR20157016039	20131021
US2015271791 AA	20150924	US20130434335	20131021
US2018055223 AA	20180301	US20170804822	20171106
US9839019 BB	20171205	US20130434335	20131021
WO14096766 A1	20140626	WO2013GB52738	20131021

Priority:

GB20120022902 20121219 EP20130783369 20131021 WO2013GB52738 20131021
US20140343335 20140306 US20170804822 20171106

Probable Assignee: SONY CORP

Assignee(s): (std): SONY CORP ; SONY EUROPE LTD

Inventor(s): (std): WEBB MATTHEW ; WAKABAYASHI HIDEJI ; HIDEJI WAKABAYASHI ; MATTHEW WEBB ; WEBB MATTHEW WILLIAM

Agent(s): D YOUNG AND CO LLP; HAGIWARA YASUSHI; KAMEYA YOSHIKI; KANEMOTO TETSUO; OBLON MCCLELLAND MAIER AND NEUSTADT LLP; LEWIS DARREN

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: 57561361 (US2016029239A)

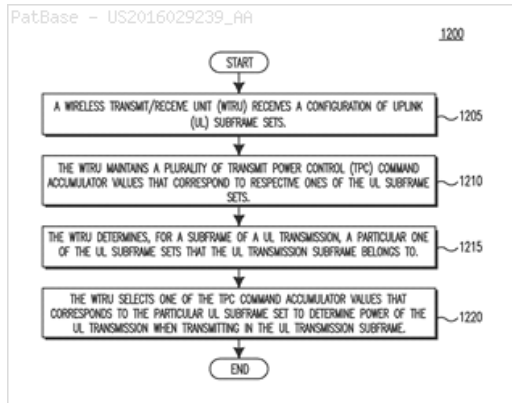
© PatBase

Title: METHOD AND APPARATUS FOR CONTROLLING UPLINK TRANSMISSION POWER BASED ON ACCUMULATED TRANSMIT POWER CONTROL COMMANDS AND CORRESPONDING UPLINK SUBFRAME SETS

Abstract: A method and apparatus are described for controlling uplink (UL) transmission power. A wireless transmit/receive unit (WTRU) may receive a configuration of UL subframe sets and maintain a plurality of transmit power control (TPC) command accumulator values that correspond to respective ones of the UL subframe sets. The WTRU may receive a TPC command in a subframe n of a downlink (DL) transmission, determine a subframe n+k of a UL transmission that the received TPC command corresponds to, determine which of the UL subframe sets the UL transmission subframe n+k belongs to, and adjust a TPC command accumulator value that corresponds to the determined UL subframe set to determine power of the UL transmission when transmitting in the UL transmission subframe, where n is an integer, and k is an integer greater than zero.

Classifications:

International (IPC 8-9): H04B17/345 H04J11/00 H04W24/10
H04W52/14 H04W52/24 H04W52/36 H04W72/04 (Advanced/Invention)
CPC: H04W52/146 H04W52/365 H04W24/10 H04B17/345
H04W52/244



Family:

Publication number	Publication date	Application number	Application date
CN105191445 A	20151223	CN201480020229	20140401
CN105191445 B	20181127	CN201480020229	20140401
EP2982194 A1	20160210	EP20140733749	20140401
JP2016519507 T2	20160630	JP20160506371T	20140401
JP6244009 B2	20171206	JP20160506371T	20140401
KR20150138365 A	20151209	KR20157031574	20140401
TW201446046 A	20141201	TW20140112308	20140402
TWI652961 B	20190301	TW20140112308	20140402
US2016029239 AA	20160128	US20140782266	20140401
WO14165510 A1	20141009	WO2014US32521	20140401

Priority:

US20130808009P 20130403 US20130882353P 20130925 WO2014US32521 20140401
US20140782266 20140401

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

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

Inventor(s): (std) STERN BERKOWITZ JANET A ; TOOHER J PATRICK ; SADEGHI POURIYA ; LEE MOON IL ; KINI ANANTH ; NAYEB NAZAR SHAHROKH ; TAMAKI NOBUYUKI

Agent(s): AWAPATENT AB; TANI AND ABE PC; WOLINSKY SCOTT

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: 61601399 (WO17081490A1)

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Title: METHOD OF INITIALISING PHYSICAL DOWNLINK CONTROL CHANNEL (PDCCH) FOR EMT C AND IOT DEVICES

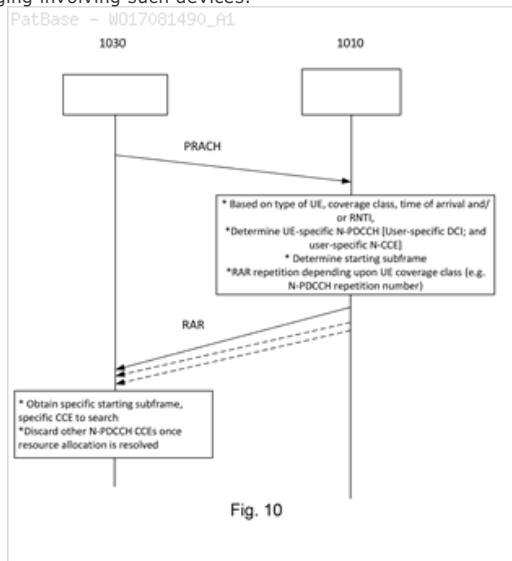
Abstract: Messages are transmitted between devices and eNodeBs when initialising random access and user-specific resource allocation. In extending LTE to ultra-low complexity "internet of things" devices, a UE-specific N-PDCCH design is discussed that addresses the requirements of control channel messaging involving such devices.

Classifications:

International (ipc 8-9): H04W72/12 H04W74/08 (Advanced/Invention);

H04W4/00 H04W72/04 (Advanced/Non-invention)

CPC: H04W74/0833 H04W72/048 H04W74/08 H04W72/12 H04W72/042 H04W4/70



Family:

Publication number	Publication date	Application number	Application date
GB201519999 A0	20151230	GB20150019999	20151112
GB2544317 A1	20170517	GB20150019999	20151112
GB2544317 B2	20180704	GB20150019999	20151112
WO17081490 A1	20170518	WO2016GB53562	20161114

Priority:

GB20150019999 20151112

Probable Assignee: VODAFONE GROUP PLC

Assignee(s): (std): VODAFONE GROUP PLC ; VODAFONE IP LICENSING LTD

Inventor(s): (std): SIVA SUBRAMANI ; SUBRAMANI SIVA

Agent(s): BOULT WADE TENNANT

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 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: 51343407 (US2013272259A)

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Title: METHOD AND APPARATUS FOR ALLOCATING A COMPONENT CARRIER IN A CARRIER JUNCTION SYSTEM

Abstract: The present invention relates to a carrier junction system. Concretely, the present invention relates to a method for allocating a component carrier in a carrier junction system, the method being characterized by comprising a step of receiving at least one item of component carrier configuration information supported by a base station, from the base station, wherein the component carrier configuration information includes at least one item of component carrier set information, and said at least one item of component carrier set information is downlink component carrier set information transmitted by a physical downlink shared channel (PDSCH), uplink component carrier set information transmitted by a physical uplink shared channel (PUSCH), or PDSCH monitoring component carrier set information transmitted by a physical downlink control channel (PDCCH).

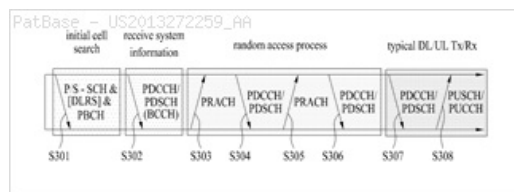
Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04W72/04 H04W88/02 (Advanced/Invention)

CPC: H04W72/042 H04L5/001 H04L5/003 H04J11/005 H04W72/0453

European: H04L5/00A2A11 H04L5/00C H04W72/04F4

US: 370/329



Family:

Publication number	Publication date	Application number	Application date
US2013272259 AA	20131017	US20110995832	20110507
WO12086883 A1	20120628	WO2011KR03417	20110507

Priority:

US20100424682P 20101220

US20110995832 20110507

WO2011KR03417 20110507

Probable Assignee: LG ELECTRONICS

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

Inventor(s): (std): HAN SEUNGHEE ; KIM SOYEON ; KIM JINMIN

Agent(s): PARK JANG WON

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 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

12) Family number: 54825449 (US2013250882A)

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Title: INFORMATION EXCHANGE BETWEEN BASE STATIONS

Abstract: 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.

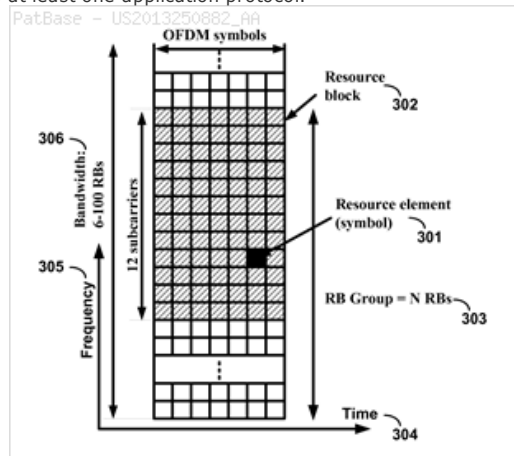
Classifications:

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
US2018376482 AA	20181227	US20180954003	20180416
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
US20180954003 20180416

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

13) Family number: 53057452 (US2015282155A)

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Title: BASE STATION AND ASSOCIATED METHOD FOR ASSIGNING UPLINK RESOURCES TO TERMINAL DEVICES WITH A SIMILAR TRAFFIC PROFILE

Abstract: A method of allocating radio resources for uplink transmissions in a wireless telecommunications system, including: a first terminal device communicating a request for an allocation of radio resources to a base station; the base station determining whether there is an association between the first terminal device and a second terminal device based on their having similar predicted traffic profiles for uplink data; and the base station establishing a radio resource allocation for the second terminal device based on the resources requested by the first terminal device, and consequently transmitting radio resource allocation messages to allocate radio resources to the first and the second terminal devices for respective uplink transmissions based on the request for an allocation of radio resources received from the first terminal device.

Classifications:

International (IPC 8-9): H04W4/00 H04W48/12 H04W72/04

H04W72/12 H04W74/00 (Advanced/Invention);

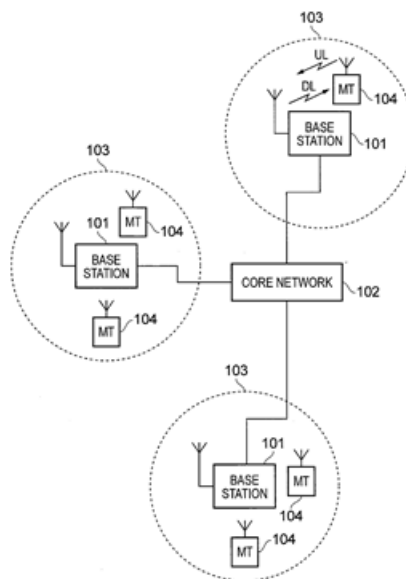
H04W4/00 H04W74/00 (Advanced/Non-invention)

CPC: H04W48/12 H04W72/042 H04W72/048 H04W72/0453

H04W72/121 H04W74/006 H04W4/70

US: 370/329

PatBase - US2015282155_AA



Family:

Publication number	Publication date	Application number	Application date
DE602013021329 D1	20170622	DE201360021329T	20131021
EP2936901 A1	20151028	EP20130783368	20131021
EP2936901 B1	20170517	EP20130783368	20131021
GB201222899 A0	20130130	GB20120022899	20121219
GB2509070 A1	20140625	GB20120022899	20121219
GB2509070 B2	20180411	GB20120022899	20121219
KR20150096663 A	20150825	KR20157015959	20131021
US2015282155 AA	20151001	US20130437381	20131021
US9635673 BB	20170425	US20130437381	20131021
WO14096765 A1	20140626	WO2013GB52737	20131021

Priority:

GB20120022899 20121219 EP20130783368 20131021 WO2013GB52737 20131021

Probable Assignee: SONY CORP

Assignee(s): (std): SONY CORP ; SONY EUROPE LTD

Inventor(s): (std): WEBB MATTHEW ; WAKABAYASHI HIDEJI ; HIDEJI WAKABAYASHI ; MATTHEW WEBB ; HDEJ WAKABAYASH

Agent(s): D YOUNG AND CO LLP; OBLON MCCLELLAND MAIER AND NEUSTADT LLP; LEWIS DARREN

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

14) Family number: 44926498 (US2011194501A)

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Title: COMMUNICATIONS METHOD AND DEVICE IN A MULTI-CARRIER SYSTEM

Abstract: A communication method and apparatus using multiple carriers are provided. A primary carrier is configured, and multi-carrier control information for monitoring a control channel of a secondary carrier is transmitted through the primary carrier. A user equipment monitors a control channel of the secondary carrier on the basis of the multi-carrier control information.

Classifications:

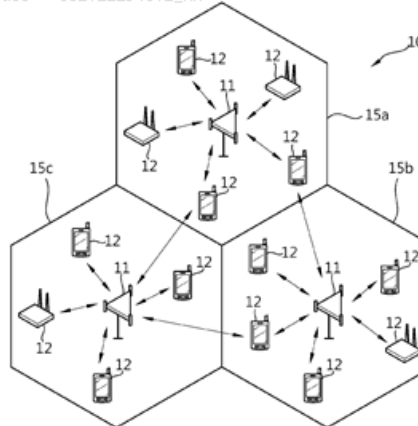
International (IPC 8-9): H04B7/26 H04J1/12 H04J1/16 H04J11/00 H04L27/26 H04L5/00 H04W24/00 H04W4/00 H04W72/00 H04W72/04 H04W88/02 (Advanced/Invention); H04B7/26 H04J11/00 H04W24/00 H04W72/04 H04W88/02 (Advanced/Non-invention); H04J1/00 H04L27/26 H04W24/00 (Core/Invention)

CPC: H04L5/001 H04L5/003 H04L5/0053 H04L5/0007 H04W72/042 H04L27/26 H04W24/00 H04W74/0833

European: H04L5/00A2A11 H04L5/00C H04L5/00C6 T04L5/00A2A1

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

PatBase - US2011194501_AA



Family:

Publication number	Publication date	Application number	Application date
EP2341679 A2	20110706	EP20090820782	20091015
EP2341679 A4	20160518	EP20090820782	20091015
EP2341679 B1	20190109	EP20090820782	20091015
KR101238564 B1	20130311	KR20117007332	20091015
KR20110081960 A	20110715	KR20117007332	20091015
US2011194501 AA	20110811	US20090123641	20091015
US2011211489 AA	20110901	US20090127124	20091103
US8654666 BB	20140218	US20090127124	20091103
US8824389 BB	20140902	US20090123641	20091015
WO10044632 A2	20100422	WO2009KR05954	20091015
WO10044632 A3	20100715	WO2009KR05954	20091015
WO10062061 A2	20100603	WO2009KR06431	20091103
WO10062061 A3	20100812	WO2009KR06431	20091103

Priority:

US20080105432P 20081015	US20080110932P 20081103	US20090151845P 20090212
US20090157910P 20090306	US20090171065P 20090420	US20090123641 20091015
WO2009KR05954 20091015	US20090127124 20091103	WO2009KR06431 20091103

Probable Assignee: LG ELECTRONICS

Assignee(s): (std): CHUNG JAE HOON ; HAN SEUNG HEE ; KIM SO YEON ; KWON YEONG HYEON ; LG ELECTRONICS INC ; MOON SUNGHO ; NOH MINSEOK ; NOH MIN SEOK ; MOON SUNG HO ; MOON SEONG HO ; LG ELECTRONICS

Inventor(s): (std): KWON YEONG HYEON ; KIM SO YEON ; HAN SEUNG HEE ; CHUNG JAE HOON ; MOON SUNGHO ; NOH MINSEOK ; NOH MIN SEOK ; MOON SUNG HO

Agent(s): GUNZELMANN RAINER; MORGAN LEWIS AND BOCKIUS 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 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

15) Family number: 49556518 (US2012327896A)

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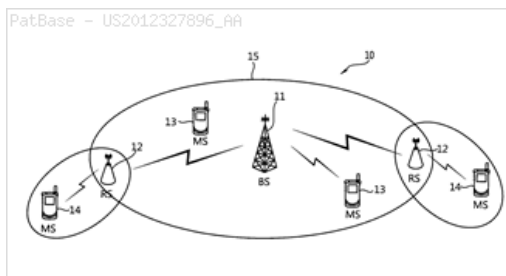
Title: METHOD AND APPARATUS FOR COMMUNICATION WITH A NETWORK IN A WIRELESS COMMUNICATION SYSTEM

Abstract: The present invention relates to a method and apparatus for performing communications by adjusting a resource unit. Efficient allocation of resource units can minimize power consumption. The minimization of power consumption brings about great advantages to M2M (machine-to-machine) communication. A terminal can transmit or receive data via different resource units. In this case, the resource units can be determined by MS. That is, some MS may use a particular resource unit, while the others may use a different resource unit. When different resource units are given, corresponding radio resource regions are also determined differently from one another. However, the total number of tones corresponding to the resource units may be the same.

Classifications:

International (IPC 8-9): H04B7/26 H04J11/00 H04W4/00 H04W72/04 H04W72/12 (Advanced/Invention); H04B7/26 H04J11/00 H04W52/02 H04W72/04 (Advanced/Non-invention)

CPC: H04W72/044 H04W52/0229 H04W72/0453 H04J11/00
H04L5/0005 H04W72/0446 H04W72/1263 Y02D70/1224
Y02D70/1242 Y02D70/1262 Y02D70/1264 Y02D70/142 Y02D70/146
Y02D70/21 Y02D70/122 Y02D70/124 Y02D70/126 Y02D70/14
European: H04W72/04H T04W52/02
US: 370/328 370/329 370/330 370/331 455/450 455/464 455/509



Family:

Publication number	Publication date	Application number	Application date
KR101829922 B1	20180220	KR20110019403	20110304
KR20110101086 A	20110915	KR20110019403	20110304
US2012327896 AA	20121227	US20110582946	20110304
US8934447 BB	20150113	US20110582946	20110304
WO11108891 A2	20110909	WO2011KR01518	20110304
WO11108891 A3	20120112	WO2011KR01518	20110304

Priority:

US20100310717P 20100305 KR20110019403 20110304 WO2011KR01518 20110304
US20110582946 20110304

Probable Assignee: LG ELECTRONICS

Assignee(s): (std): CHO HAN GYU ; LEE HYUN WOO ; LG ELECTRONICS ; LG ELECTRONICS INC

Inventor(s): (std): CHO HAN GYU ; LEE HYUN WOO

Inventor(s): HYUN WOO LEE ; HAN GYU CHO

Agent(s): MCKENNA LONG AND ALDRIDGE 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 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 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

16) Family number: 61064538 (US2015358188A)

© PatBase

Title: JOINT DEMODULATING AND DEMAPPING OF DIGITAL SIGNAL

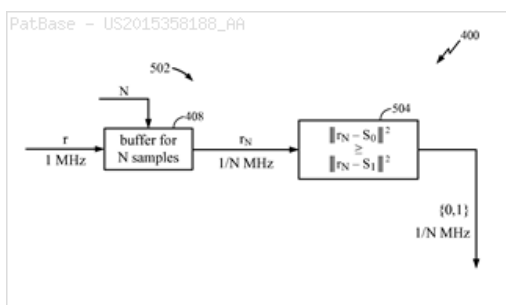
Abstract: A method of joint demodulating and demapping of a digital signal includes receiving a first sequence of the digital signal. The digital signal has a pattern in which a norm of an ideal transmitted sequence of symbols for zero is equal to a norm of an ideal transmitted sequence of symbols for one. The method also includes defining a portion of the first sequence as a third sequence, determining, for each element of a set of the third sequence, one of a real part of a value or an imaginary part of the value of the element, calculating a value for a combination of the determined one of the real part of the value or the imaginary part of the value for the each element of the set, and setting a bit equal to one in response to the value for the combination being less than zero.

Classifications:

International (IPC 8-9): H04L1/00 H04L1/08 H04L27/14
H04W4/00 (Advanced/Invention)

CPC: H04L27/14 H04L1/0047 H04L1/0054 H04L1/0057 H04L1/08
H04W4/80

US: 1/1 375/340



Family:

Publication number	Publication date	Application number	Application date
CN106464437 A	20170222	CN201580030055	20150505
EP3152852 A1	20170412	EP20150724430	20150505
IN201647037119 A	20161202	IN201647037119	20161028
US2015358188 AA	20151210	US20140576511	20141219
US9276788 BB	20160301	US20140576511	20141219
WO15191184 A1	20151217	WO2015US29235	20150505

Priority:

US20140009796P 20140609 US20140576511 20141219 WO2015US29235 20150505

Probable Assignee: QUALCOMM INC

Assignee(s): (std): QUALCOMM INC

Inventor(s): (std): GOPALAN RAVIKIRAN

Agent(s): HOHGARDT MARTIN; MUNCY GEISSLER OLDS AND LOWE PC; CICCOTZI JOHN L

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 SUPPORTING SCHEDULING GROUPS OF DEVICES CHARACTERISTICS IN A WIRELESS COMMUNICATION SYSTEM

Abstract: A method for and apparatus for supporting scheduling groups based on devices characteristics in a wireless communication system is provided. A wireless device receives a group identification(ID) to monitor a physical downlink control channel (PDCCH) for Machine Type Communication (MTC), receives the PDCCH with the group ID at a predetermined subframe, and configures a physical downlink shared channel (PDSCH) and a physical uplink shared channel (PUSCH) shared with MTC UEs by the PDCCH of grant. And, more efficient and accurate scheduling with lower complexity and reduction of control overhead, for multi-UEs is provided in this invention.

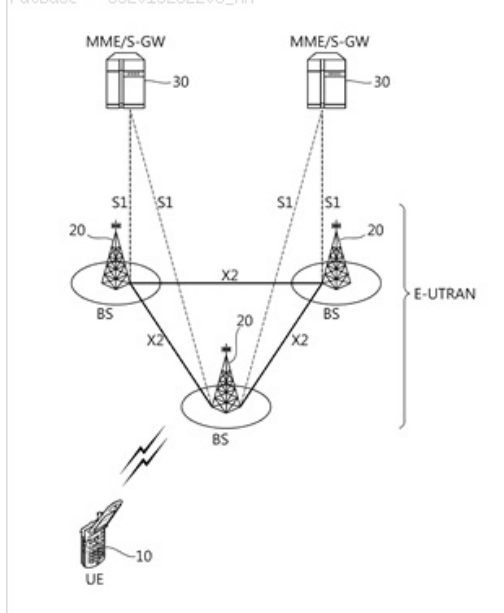
Classifications:

International (IPC 8-9): H04B7/26 H04L1/00 H04L1/18 H04L27/26 H04W72/04 H04W72/12 (Advanced/Invention)

CPC: H04W72/1289 H04W72/042 H04L1/1851 H04L1/1861 H04L2001/0093 H04W72/121

US: 370/329

PatBase - US2015282208_AA



Family:

Publication number	Publication date	Application number	Application date
CN104769857 A	20150708	CN201380057562	20131101
CN104769857 B	20180522	CN201380057562	20131101
US2015282208 AA	20151001	US20130439727	20131101
US9603163 BB	20170321	US20130439727	20131101
WO14069946 A1	20140508	WO2013KR09865	20131101

Priority:

US20120721476P 20121101 US20130439727 20131101 WO2013KR09865 20131101

Probable Assignee: LG ELECTRONICS

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

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

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

Title: RANDOM ACCESS STRUCTURE FOR WIRELESS NETWORKS

Abstract: Apparatus and methods for accessing a wireless telecommunications network by transmitting a random access signal. The random access signal includes a random access preamble signal selected from a set of random access preamble signals constructed by cyclically shift selected root CAZAC sequences. The random access signal may be one or more transmission sub-frames in duration, the included random access preamble sequence's length being extended with the signal to provide improved signal detection performance in larger cells and in higher interference environments. The random access signal may include a wide-band pilot signal facilitating base station estimation of up-link frequency response in some situations. Each of the plurality of available random access preamble sequences may be assigned a unique information value. The base station may use the information encoded in the random access preamble to prioritize responses and resource allocations. Random access signal collisions are dealt with by a combination of preamble code space randomness and back-off procedures.

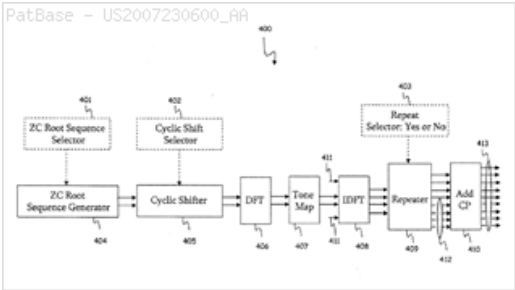
Classifications:

International (IPC 8-9): A63B21/005 H04B7/204 H04J11/00 H04J13/00 H04J13/14 H04K1/10 H04L27/26 H04L27/28 H04L7/06 H04L7/08 H04W72/04 H04W72/10 H04W74/08 H04W92/10 (Advanced/Invention);

H04L27/26 H04W72/10 H04W74/08 (Advanced/Non-invention); A63B21/005 H04J11/00 H04K1/10 H04L27/26 H04L7/08 H04W72/00 H04W74/00 H04W92/00 (Core/Invention)

CPC: H04L5/0007 H04L5/0016 H04L5/0048 H04L5/0053 H04L5/0064 H04L27/2605 H04L27/2613 H04L25/022 H04L5/023 H04W74/00

H04J13/00 H04J13/14 H04L5/0044 H04L5/006 H04L27/2602
H04W74/002 H04W74/08 H04W74/0833
European: H04J13/00 H04L27/26M1 H04L27/26M1G H04L27/26M1R3
H04L5/00A2A1 H04L5/00C5 H04L5/00C6 H04W274/08 H04W36/14
H04W74/08 H04W74/08D T04J13/14 T04L25/02C5 T04L5/00A3A
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T04W24/06 T04W248/08 T04W248/16 T04W272/04 T04W36/04
T04W74/00 T04W74/00C T04W8/08
US: 370/208 370/210 370/319 370/335 370/343 375/130 375/260
375/260P 375/267 375/285 375/295 375/364 375/365 375/366
375/368 375/370



Family:

Publication number	Publication date	Application number	Application date
CN101455048 A	20090610	CN200780019422	20070327
CN101455048 B	20160316	CN200780019422	20070327
CN102857467 A	20130102	CN201210320704	20070327
CN102857467 B	20160817	CN201210320704	20070327
EP1901511 A1	20080319	EP20060291461	20060914
EP2002626 A2	20081217	EP20070754106	20070327
JP2009542040 T2	20091126	JP20090502935T	20070327
JP2014057344 A2	20140327	JP20130229623	20131105
JP2016048940 A2	20160407	JP20150216908	20151104
JP5441257 B2	20140312	JP20090502935T	20070327
JP5865333 B2	20160217	JP20130229623	20131105
JP6212094 B2	20171011	JP20150216908	20151104
KR101025993 B1	20110330	KR20087026133	20081024
KR101215727 B1	20121226	KR20117004286	20070327
KR20090005061 A	20090112	KR20087026133	20070327
KR20110036133 A	20110406	KR20117004286	20070327
US2007230600 AA	20071004	US20070691549	20070327
US2008095254 AA	20080424	US20070877533	20071023
US8098745 BB	20120117	US20070691549	20070327
US8457039 BB	20130604	US20070877533	20071023
WO07126793 A2	20071108	WO2007US07535	20070327
WO07126793 A3	20080103	WO2007US07535	20070327
WO08052041 A2	20080502	WO2007US82360	20071024
WO08052041 A3	20080821	WO2007US82360	20071024

Priority:

EP20060290519	20060327	EP20060291004	20060619	EP20060291010	20060619
US20060821227P	20060802	EP20060291461	20060914	US20060862701P	20061024
US20070883942P	20070108	CN200780019422	20070327	EP20070754106	20070327
US20070691227	20070327	US20070691549	20070327	JP20090502935	20070327
JP20090502935T	20070327	JP20130229623	20070327	WO2007US07535	20070327
US20070877533	20071023				

Probable Assignee: TEXAS INSTRUMENTS INC

Assignee(s): (std): BERTRAND PIERRE ; JIANG JING ; KANGUDE SHANTANU ; MUHAREMOVIC TARIK ; TEXAS INSTRUMENTS INC ; TEXAS INSTRUMENTS FRANCE ; SHEN ZUKANG

Inventor(s): (std): BERTRAND PIERRE ; KANGUDE SHANTANU ; JIANG JING ; MUHAREMOVIC TARIK ; SHEN ZUKANG ; TARIK MUHAREMOVIC ; ZUKANG SHEN ; JING JIANG ; PIERRE BERTRAND

Agent(s): HOLT MICHAEL; ASAMURA PATENT OFFICE PC; TEXAS INSTRUMENTS INC; WADE JAMES; RONALD O; FREDERICK J; NEERINGS RONALD O ET AL

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 YU ZA ZM ZW

19) Family number: 44663921 (US2010074130A)

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Title: PREAMBLE GROUP SELECTION IN RANDOM ACCESS OF WIRELESS NETWORKS

Abstract: A transport block size (TBS) of a first uplink message (RACH Msg3) transmitted on a Physical Uplink Shared Channel (PUSCH) during a random access procedure in a User Equipment (UE) accessing a radio access network may be determined by receiving a pathloss threshold parameter. A downlink pathloss value indicative of radio link conditions between the UE and a base station (eNB) serving the UE is then determined. A smaller value of TBS is selected from a set of TBS values if the determined pathloss value is greater than an operating power level of the UE minus the pathloss threshold parameter. A larger value of TBS is selected if the pathloss value is less than the operating power level of the UE minus the pathloss threshold parameter and the TBS required to transmit the RACH Msg3 exceeds the smaller TBS value.

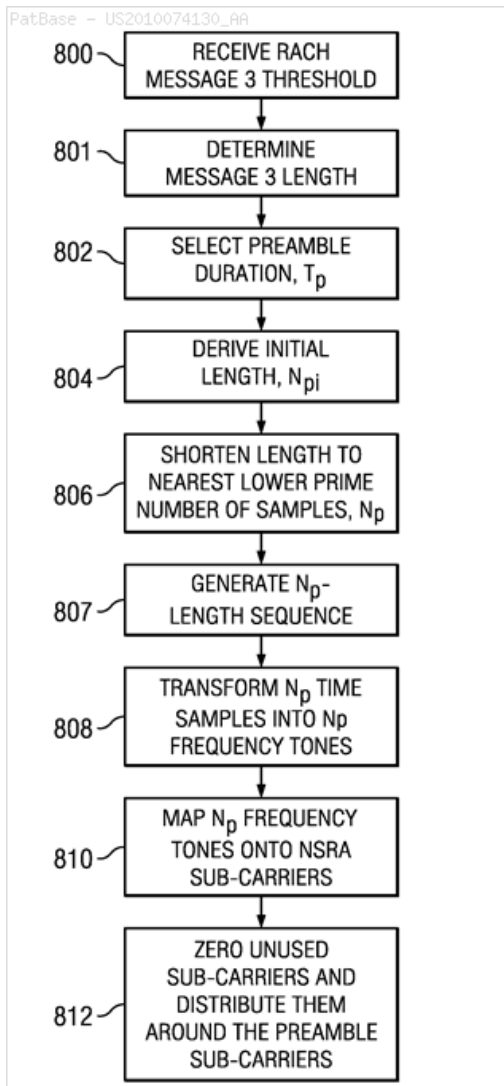
Classifications:

International (IPC 8-9): H04J1/16 H04L1/00 H04L12/26 H04L12/28
H04L27/26 H04W24/00 H04W28/02 H04W4/00 H04W40/08
H04W52/04 H04W72/04 H04W74/00 H04W74/08 (Advanced/Invention);
H04W72/08 H04W74/08 (Advanced/Non-invention);
H04J1/00 H04W4/00 (Core/Invention)

CPC: H04L1/0007 H04W72/085 H04W74/002 H04W74/008
H04L27/2692 H04W52/04 H04W28/0221 H04W40/08 H04L2027/0095
H04W72/0473 H04W74/0833

European: H04L1/00A3L H04W74/00C T04W72/08D T04W74/08D

US: 370/252 370/252P 370/328 370/329 370/329S 379/328 455/522

**Family:**

Publication number	Publication date	Application number	Application date
US2010074130 AA	20100325	US20090563281	20090921
US2012163231 AA	20120628	US20120413450	20120306
US2014369297 AA	20141218	US20140444896	20140728
US2017223732 AA	20170803	US20170489344	20170417
US8130667 BB	20120306	US20090563281	20090921
US8792377 BB	20140729	US20120413450	20120306
US9629165 BB	20170418	US20140444896	20140728

Priority:

US20080098346P 20080919 US20090563281 20090921 US20120413450 20120306
 US20140444896 20140728 US20170489344 20170417

Probable Assignee: TEXAS INSTRUMENTS INC

Assignee(s): (std): BERTRAND PIERRE ; KANGUDE SHANTANU ; SHEN ZUKANG ; TEXAS INSTRUMENTS INC

Inventor(s): (std): KANGUDE SHANTANU ; BERTRAND PIERRE ; SHEN ZUKANG

Agent(s): TEXAS INSTRUMENTS INC; ROBERT D; W JAMES; FREDERICK J; RONALD O; WADE JAMES; FRANK D; CHARLES A

20) Family number: 56829947 (US2015326369A)

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Title: METHOD OF TRANSMITTING AND RECEIVING CHANNEL QUALITY INDICATOR INFORMATION IN WIRELESS ACCESS SYSTEM AND DEVICE SUPPORTING SAME

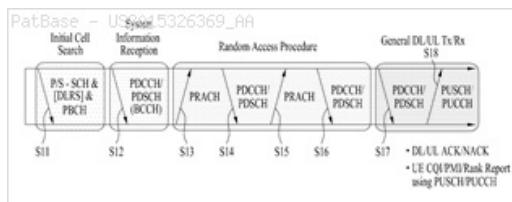
Abstract: The present invention relates to a method of transmitting and receiving channel quality indicator (CQI) information that relates to a channel aging effect in an environment where a time-varying channel characteristic is maximized, and a device supporting same. According to an embodiment of the present invention, a method of reporting multi-channel quality indicator (CQI) information by a terminal in a wireless access system that supports an environment where a time-varying channel characteristic is maximized may include receiving a first reference signal, obtaining information on a first CQI by using the first reference signal, receiving a second reference signal, obtaining information on a second CQI by using the second reference signal, reporting the information on the first CQI, and reporting the information on the second CQI.

Classifications:

International (IPC 8-9): H04L1/00 H04L5/00 H04W16/28 H04W24/10
 H04W72/04 (Advanced/Invention)

CPC: H04L1/0026 H04L5/005 H04L5/0057 H04L5/0007

US: 370/252



Family:

Publication number	Publication date	Application number	Application date
CN104956717 A	20150930	CN201380071448	20131227
DE602013040986 D1	20180823	DE201360040986T	20131227
EP2941041 A1	20151104	EP20130867465	20131227
EP2941041 A4	20160803	EP20130867465	20131227
EP2941041 B1	20180725	EP20130867465	20131227
IN01684MN2015 A	20160527	IN2015MN01684	20150626
JP2016506180 T2	20160225	JP20150550324T	20131227
JP6419084 B2	20181107	JP20150550324T	20131227
KR20150102032 A	20150904	KR20157017361	20131227
US2015326369 AA	20151112	US20130655319	20131227
US9673951 BB	20170606	US20130655319	20131227
WO14104799 A1	20140703	WO2013KR12280	20131227

Priority:

US20120746132P 20121227 EP20130867465 20131227 WO2013KR12280 20131227
US20130655319 20131227

Probable Assignee: LG ELECTRONICS

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

Inventor(s): (std): KO HYUNSOO ; KIM KITAE ; CHUNG JAEHOON ; KIM JINMIN ; KIM JIN MIN ; KO HYUN SOO ; KIM KI TAE ; CHUNG JAE HOON

Agent(s): FRENKEL MATTHIAS ALEXANDER; 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 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

21) Family number: 48842958 (US2012213187A)

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Title: UPLINK CONTROL INFORMATION TRANSMISSION METHOD AND APPARATUS IN MULTICARRIER SYSTEM

Abstract: A method for transmitting uplink control information of a user equipment in a multi-carrier system is provided. The method includes: transmitting each of acknowledgement/not-acknowledgement (ACK/NACK) for downlink data transmitted by a base station through multiple downlink component carriers; and transmitting channel state information indicating a state of a downlink channel to the base station, wherein each of the ACK/NACK and the channel state information are allocated to the same uplink control channel resource in a subframe, and if each of the ACK/NACK and the channel state information are reserved to be transmitted on the same subframe, each of the ACK/NACK only is transmitted. Accordingly, a user equipment can transmit uplink control information while preserving a single-carrier property of an uplink signal in a multi-carrier system using carrier aggregation.

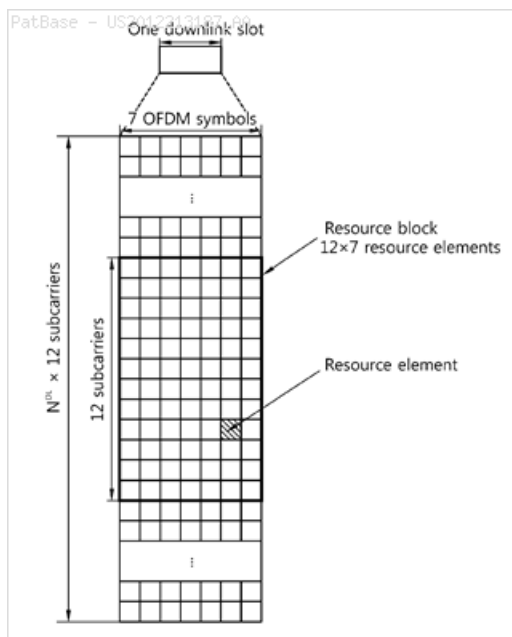
Classifications:

International (IPC 8-9): H04J11/00 H04L1/00 H04L1/16 H04L1/18 H04L27/26 H04L5/00 H04W72/00 H04W72/04 H04W72/12 (Advanced/Invention)

CPC: H04L1/0027 H04L1/1671 H04L1/1854 H04L5/0019 H04L5/0055 H04L5/0057 H04W72/0413 H04W72/0453 H04L27/2601 H04L1/1861 H04L5/001 H04L1/18 H04L1/1896 H04W72/12

European: H04L1/00A9C H04L1/16F15 H04L1/18R11 H04L1/18R7 H04L5/00A3C H04L5/00C6 H04L5/00C6A H04L5/00C6B

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



Family:

Publication number	Publication date	Application number	Application date
CN102656831 A	20120905	CN201080053787	20101026
CN102656831 B	20150218	CN201080053787	20101026
CN104601315 A	20150506	CN201510025891	20101026

CN104601315 B	20180327	CN201510025891	20101026
EP2495900 A2	20120905	EP20100827045	20101026
EP2495900 A4	20141210	EP20100827045	20101026
EP2495900 B1	20190306	EP20100827045	20101026
KR101784189 B1	20171012	KR20100102196	20101020
KR101825892 B1	20180322	KR20170124772	20170927
KR20110046288 A	20110504	KR20100102196	20101020
KR20170117912 A	20171024	KR20170124772	20170927
US2012213187 AA	20120823	US20100504835	20101026
US2016007344 AA	20160107	US20150855025	20150915
US9154266 BB	20151006	US20100504835	20101026
US9936487 BB	20180403	US20150855025	20150915
WO11052961 A2	20110505	WO2010KR07362	20101026
WO11052961 A3	20111027	WO2010KR07362	20101026

Priority:

US20090255842P 20091028 US20100374586P 20100817 KR20100102196 20101020
CN201080053787 20101026 US20100504835 20101026 WO2010KR07362 20101026
US20120504835 20120427 US20150855025 20150915 KR20170124772 20170927

Probable Assignee: LG ELECTRONICS

Assignee(s): (std): AHN JOON KUI ; KIM MIN GYU ; LG ELECTRONICS ; LG ELECTRONICS INC ; YANG SUCK CHEL ; SEO DONG YOUN

Inventor(s): (std): YANG SUCK CHEL ; AHN JOON KUI ; KIM MIN GYU ; SEO DONG YOUN ; YOUN SEO DONG ; CHEL YANG SUCK ; GYU KIM MIN ; KUI AHN JOON ; MIN GYU KIM ; DONG YOUN SEO ; JOON KUI AHN ; SUCK CHEL YANG

Agent(s): CABINET PLASSERAUD; 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 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

22) Family number: 55199992 (US2013315159A)

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Title: SYSTEM AND METHOD FOR DELAY SCHEDULING

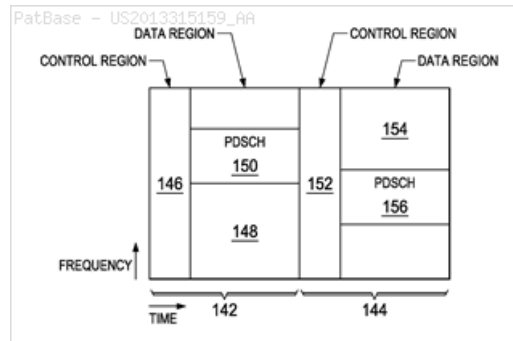
Abstract: In one embodiment, a method for delay scheduling includes determining whether a communications controller has information for a machine type communication (MTC) device and determining a first subframe to transmit a downlink control information (DCI) message on when the communications controller has information for the MTC device. The method also includes transmitting, by the communications controller to the MTC device, the first subframe including the DCI message and the information in accordance with the first subframe.

Classifications:

International (IPC 8-9): H04B7/26 H04W72/04 H04W72/12
H04W84/12 H04W88/02 (Advanced/Invention);
H04W88/02 (Advanced/Non-invention)

CPC: H04W72/12 H04W72/0446 H04W88/02 H04W72/042
H04W72/1273 H04W72/1289

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
CN104335509 A	20150204	CN201380026249	20130522
CN104335509 B	20171205	CN201380026249	20130522
CN107911869 A	20180413	CN201711199167	20130522
DE602013036967 D1	20180530	DE201360036967T	20130522
EP2853045 A1	20150401	EP20130794470	20130522
EP2853045 A4	20150429	EP20130794470	20130522
EP2853045 B1	20180502	EP20130794470	20130522
EP3386259 A1	20181010	EP20180170021	20130522
ES2673559 T3	20180622	ES20130794470T	20130522
US2013315159 AA	20131128	US20130899251	20130521
US2015341953 AA	20151126	US20150819058	20150805
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WO13174263 A1	20131128	WO2013CN076073	20130522

Priority:

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Probable Assignee: FUTUREWEI TECHNOLOGIES INC FUTUREWEI

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