

Nicolas Vargas

1) Family number: 57468013 (US2016044711A)

© PatBase

Title: MULTI-BAND OPERATION FOR WIRELESS LAN SYSTEMS

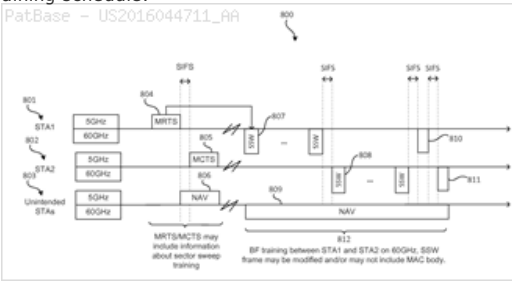
Abstract: Systems, methods, and instrumentalities are provided to implement transmission scheduling. A multiband device may send a request via a first frequency band. The request may include a multiband Request to Send (MRTS) transmission. The request may be associated with a second frequency band and/or a beamforming training schedule. The first frequency band may be associated with a **quasi-omni** transmission and the second frequency band may be associated with a directional transmission. The first frequency band may be a 5 GHz band and the second frequency band may be a 60 GHz band. The multiband device may receive a multiband Clear to Send (MCTS) transmission via the first frequency band confirming the request. The multiband device may be configured to send a beamforming signal in accordance with the request, for example, via the second frequency band. The beamforming signal may be sent in accordance with a beamforming training schedule.

Classifications:

International (IPC 8-9): H04B7/00 H04B7/06 H04W H04W28/20
H04W72/12 H04W74/04 H04W74/08 (Advanced/Invention);
H04W84/12 H04W88/06 H04W88/08 (Advanced/Non-invention);
H04W (Subclass/Invention)

CPC: H04B7/0695 H04W74/0816 H04W84/12 H04W88/06 H04B7/0617
H04W72/1284 H04W88/08

US: 370/338



Family:

Publication number	Publication date	Application number	Application date
CN105052235 A	20151111	CN201480015957	20140313
EP2974494 A1	20160120	EP20140717021	20140313
HK1220849 A1	20170512	HK20160108685	20160720
TW201503735 A	20150116	TW20140109421	20140314
TWI636699 B	20180921	TW20140109421	20140314
US2016044711 AA	20160211	US20140777151	20140313
US2019297646 AA	20190926	US20190436478	20190610
US10321484 BB	20190611	US20140777151	20140313
WO14151951 A1	20140925	WO2014US26720	20140313

Priority:

US20130788556P 20130315 US20140777151 20140313 WO2014US26720 20140313
US20150777151 20150915 US20190436478 20190610

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

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

Inventor(s): (std): GHOSH MONISHA ; LOU HANQING ; OLESEN ROBERT L ; WANG XIAOFEI ; LOU HAN QING

Agent(s): AWAPATENT AB; CHINA PATENT AGENT HK LTD; VOLPE AND KOENIG PC; ROCCIA VINCENT J ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN 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: 54824109 (US2013252548A)

© PatBase

Title: DEVICE, SYSTEM AND METHOD OF DISCOVERING WIRELESS COMMUNICATION DEVICES

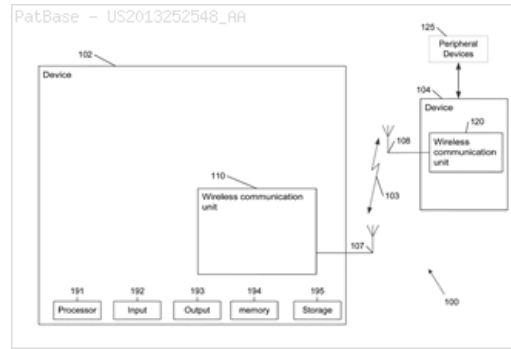
Abstract: Some demonstrative embodiments include devices, systems and/or methods of wireless communication discovery. For example, a first wireless communication device may include a wireless communication unit to discover a second wireless communication device according to an asymmetric discovery process, in which the wireless communication unit is to operate in only one first state selected from a searching state and a listening state, while the second wireless communication device is to operate in only one second state selected from the searching state and the listening state.

Classifications:

International (IPC 8-9): H04B7/00 H04W48/16
H04W88/02 (Advanced/Invention)

CPC: H04W8/005 H04W52/0216 Y02D70/1224 Y02D70/142 Y02D70/144
Y02D70/146 Y02D70/162 Y02D70/164 Y02D70/166 Y02D70/168
Y02D70/22 Y02D70/124 Y02D70/00

US: 455/41.2 455/517



Family:

Publication number	Publication date	Application number	Application date
US2013252548 AA	20130926	US20120534023	20120627
US8818278 BB	20140826	US20120534023	20120627
WO13142738 A1	20130926	WO2013US33384	20130321

Priority:

US20120614069P 20120322 US20120623705P 20120413 US20120534023 20120627

Probable Assignee: INTEL CORP

Assignee(s): (std): ARTSTAIN OFIR ; CORDEIRO CARLOS ; INTEL CORP ; LEVY ELAD ; TRAININ SOLOMON

Inventor(s): (std): ARTSTAIN OFIR ; TRAININ SOLOMON ; LEVY ELAD ; CORDEIRO CARLOS

Agent(s): SHICHRUR AND CO; SHICHRUR NAIM AVRAHAM 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 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: 59233111 (US2016255660A)

© PatBase

Title: STATION AND WIRELESS LINK CONFIGURATION METHOD THEREFOR

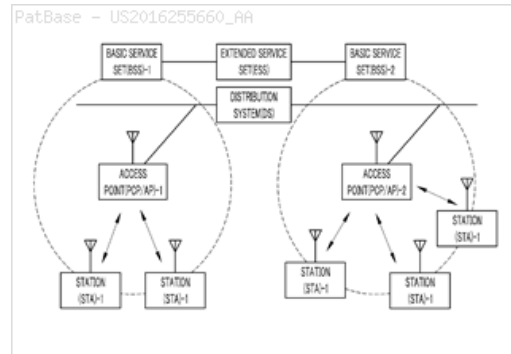
Abstract: A wireless link configuration method of a station is provided. The wireless link configuration method may include: sequentially transmitting a beamforming signal to each of at least one sector, wherein the beamforming signal includes a sector ID for identifying a predetermined sector; and receiving, from an external station, a feedback signal corresponding to at least one of the transmitted beamforming signals, wherein the beamforming signal is transmitted on a first frequency band and the feedback signal is received on a second frequency band.

Classifications:

International (IPC 8-9): H04B7/04 H04B7/06 H04B7/24 H04W72/04 H04W76/00 (Advanced/Invention)

CPC: H04B7/0491 H04B7/0617 H04W72/0453 H04W84/12 H04B7/0619 H04W72/046 H04W76/40

US: 1/1 370/329



Family:

Publication number	Publication date	Application number	Application date
CN105981310 A	20160928	CN201480072840	20141111
KR101800804 B1	20171127	KR20167018284	20141111
KR20160101007 A	20160824	KR20167018284	20141111
US2016255660 AA	20160901	US20160152069	20160511
WO15069090 A1	20150514	WO2014KR10805	20141111

Priority:

KR20130136087 20131111 WO2014KR10805 20141111

Probable Assignee: INTELLECTUAL DISCOVERY CO LTD

Assignee(s): (std): INTELLECTUAL DISCOVERY CO LTD

Assignee(s): INTELLECTUAL DISCOVERY CO

Inventor(s): (std): KWAK JIN SAM ; LIM KUK IL ; SON JU HYUNG ; OH HYUN OH

Agent(s): MAPS INTELLECTUAL PROPERTY 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

4) Family number: 56436584 (US2015289147A)

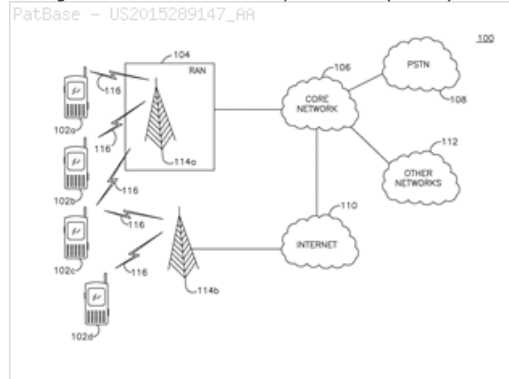
© PatBase

Title: BEAMFORMING METHODS AND METHODS FOR USING BEAMS

Abstract: A method, apparatus, system, and computer readable medium may be used to perform beamforming. The method may include a first communication device sending a first plurality of beamforming training frames to a second communication device using a first beamforming weight vector; the first communication device receiving from the second communication device a second beamforming weight vector; and the first communication device sending a second plurality of beamforming training frames to the second communication device using the second beamforming weight vector. The apparatus, method, system, and computer readable media may use spatial diversity with beam switching, spatial diversity with a single beam, weighted multipath beamforming training, single user spatial multiplexing, and beamforming training for beam division multiple access (BDMA).

Classifications:

International (IPC 8-9): H04B7/04 H04B7/0456 H04B7/06 H04B7/08 H04B7/10 H04J99/00 H04L1/06 H04W16/28 H04W24/10 H04W72/04 H04W84/12 (Advanced/Invention)
CPC: H04B7/0408 H04B7/0413 H04B7/0417 H04B7/0452 H04B7/0634 H04W16/28 H04W72/0453 H04W88/08
US: 370/329
JP F-Term: 5K022 5K067 5K067/AA13 5K067/DD25 5K067/EE02 5K067/EE10 5K067/EE22 5K067/EE46 5K067/KK02 5K159 5K159/CC04 5K159/EE02 5K159/FF02 5K159/GG02 5K067/AA21 5K067/DD43 5K067/EE08 5K067/EE16 5K067/KK03
JP F-Index: H04B7/022 H04B7/04 H04B7/0417 H04B7/06/102 H04B7/06/910 H04B7/06/956 H04B7/06/984 H04B7/10/A H04J15/00 H04J99/00 H04W16/28 H04B7/0456/100 H04B7/06/890 H04B7/08/802 H04L1/06/180 H04W24/10 H04W84/12



Family:

Publication number	Publication date	Application number	Application date
EP2920890 A1	20150923	EP20130796191	20131108
JP2016504804 T2	20160212	JP20150541948T	20131108
JP2018011309 A2	20180118	JP20170152719	20170807
JP6190889 B2	20170830	JP20150541948T	20131108
US2015289147 AA	20151008	US20130441237	20131108
WO14074894 A1	20140515	WO2013US69265	20131108

Priority:

US20120724679P 20121109 JP20150541948T 20131108 WO2013US69265 20131108
US20130441237 20131108 JP20170152719 20170807

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

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

Inventor(s): (std): GHOSH MONISHA ; OTERI OGHENEKOME ; LOU HANQING ; XIA PENGFEI ; OLESEN ROBERT L ; MONISHA GHOSH ; OGHENEKOME OTERI ; ROBERT L OLSEN

Agent(s): ENGDAHL STEFAN; TANI AND ABE PC; MASKERI NEIL C

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

5) Family number: 56395864 (US2015319700A)

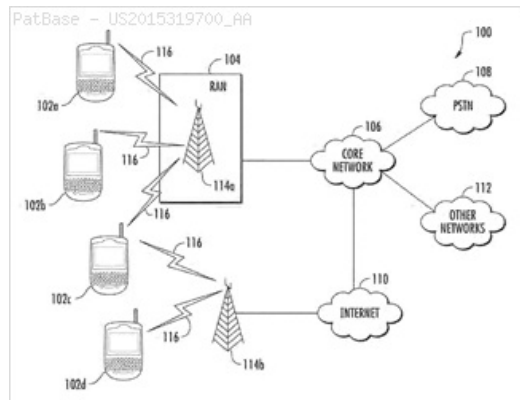
© PatBase

Title: POWER CONTROL METHODS AND PROCEDURES FOR WIRELESS LOCAL AREA NETWORKS

Abstract: A method and apparatus is described herein for performing loop power control and transmission power control (TPC) in a wireless network. Described herein are methods including using separate power control loops for communication with an entire wireless network and for point-to-point (P2P) transmissions and separate power control loops for omni-directional and directional beamformed transmissions. Also described herein are methods and apparatuses for requesting clear channel assessment (CCA) measurements and adjusting CCA thresholds and transmission power based on the reported measurements. Methods and apparatuses are also described wherein access points (APs) coordinate transmission power to reduce interference with each other and to determine optimal transmission power to each mobile station (STA).

Classifications:

International (IPC 8-9): H04B17/24 H04B17/345 H04W24/10 H04W52/08 H04W52/10 H04W52/18 H04W52/28 H04W72/08 H04W74/08 H04W84/12 (Advanced/Invention)
CPC: H04W52/08 H04W52/10 H04W24/10 H04W84/12 H04W52/28 Y02D70/00 H04W74/0808
US: 455/127.1
JP F-Term: 5K042 5K067 5K067/AA03 5K067/BB21 5K067/EE02 5K067/EE10 5K067/GG08
JP F-Index: H04B17/309 H04W24/10 H04W52/18 H04W84/12 H04B17/24 H04B17/345 H04W52/08 H04W72/08/110 H04W74/08



Family:

Publication number	Publication date	Application number	Application date
DE602013021788 D1	20170713	DE201360021788T	20131104
EP2915382 A1	20150909	EP20130795347	20131104
EP2915382 B1	20170531	EP20130795347	20131104
EP3236698 A1	20171025	EP20170173360	20131104
JP2015534418 T2	20151126	JP20150541835T	20131104
JP2018067953 A2	20180426	JP20170239654	20171214
JP6262756 B2	20180117	JP20150541835T	20131104
US2015319700 AA	20151105	US20130440316	20131104
WO14071308 A1	20140508	WO2013US68322	20131104

Priority:

US20120721967P 20121102 EP20130795347 20131104 JP20150541835T 20131104
WO2013US68322 20131104 US20130440316 20131104 JP20170239654 20171214

Probable Assignee: INTERDIGITAL PATENT HOLDINGS INC

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

Assignee(s): INTERDIGITAL PATENT HOLDINGS INC WILMINGTON

Inventor(s): (std): GHOSH MONISHA ; LA SITA FRANK ; OTERI OGHENEKOME ; LOU HANQING ; XIA PENGFEI ; SHAH NIRAV B ; OLESEN ROBERT L ; FRANK LE THETA ; NIRAV B SHAH ; ROBERT L OLSEN ; MONISHA GHOSH ; OGHENEKOME OTERI

Inventor(s): LA SITA FRANK SETAUKET ; SHAH NIRAV B SAN DIEGO ; OLESEN ROBERT L HUNTINGTON ; GHOSH MONISHA CHAPPAQUA ; LOU HANQING SYOSSET ; XIA PENGFEI SAN DIEGO ; OTERI OGHENEKOME SAN DIEGO

Agent(s): MEISSNER BOLTE PATENTANWALTE RECHTSANWALTE PARTNERSCHAFT MBB; MEISSNER BOLTE AND PARTNER GBR; HEINZE EKKEHARD; TANI AND ABE PC; LEONARD ROBERT D

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