

1) Family number: 43754491 (US2011086662A)

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Title: METHODS FOR CONTROL SIGNALING FOR WIRELESS SYSTEMS

Abstract: To effectively and efficiently provide control information, a broadcast pointer channel (BPCH) may be used to identify the type and perhaps relative location of control information that is being provided in a given frame structure, such as a sub-frame, frame, or superframe. A sub-frame (or like framing entity, such a frame or superframe) may have a BPCH and a corresponding system control information segment in which control information may reside. The system control information segment may have any number of control information blocks, wherein each control information block that is present may correspond to a particular type of control information. The BPCH is used to identify the type of control information that is present in a corresponding system control information segment, and if needed or desired, the relative locations of the various control information.

Classifications:

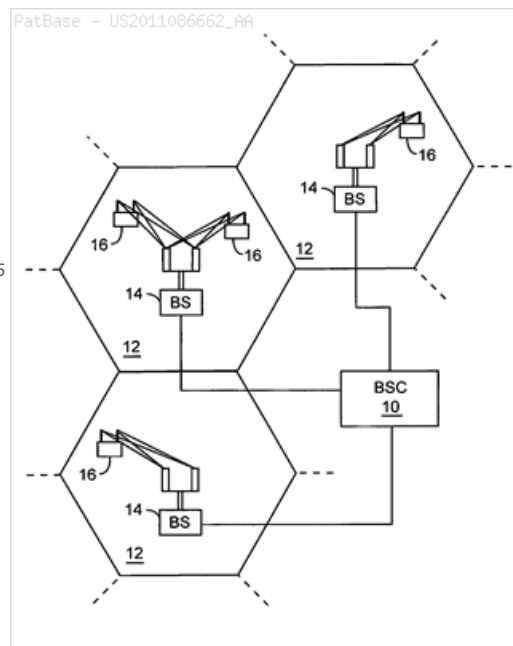
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International (ipc 1-7): H04W4/20 H04W88/08

CPC: H04W88/08 H04W48/14 H04W72/0446 H04W72/0453 H04W24/10 H04L1/1812 H04L5/0055 H04W72/042 H04W72/085 H04W72/0406 H04L5/0057 H04W74/0833 H04W72/1289 H04W68/005 H04L5/0048 H04L5/0053 H04W72/005 H04B7/2606 H04B7/2603 H04W48/10 H04W48/12 H04W88/06

European: H04W48/12 T04W48/14

US: 1/1 370/252 370/328 370/329 455/517 455/517P



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: APPLE INC

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Inventor(s): JUN YUAN ; FONG MO HAN M ; YU DONG SHENG D ; MO HAN FONG M ; DONG SHENG YU D

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

2) Family number: 59225660 (US2015131627A)

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Title: SYSTEMS AND METHODS FOR IMPROVED COMMUNICATION EFFICIENCY IN HIGH EFFICIENCY WIRELESS NETWORKS

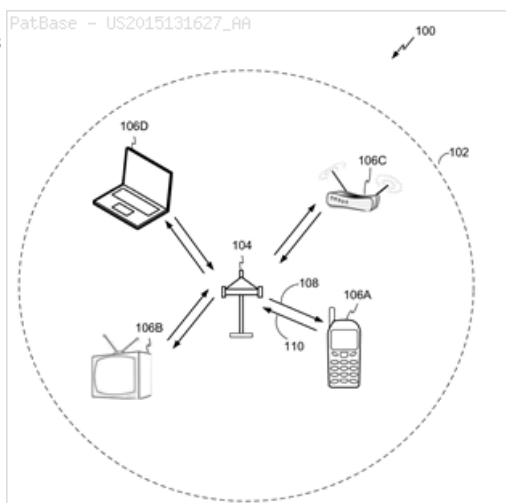
Abstract: Methods and apparatus for wireless communication in an IEEE 802.11 wireless communication system including legacy and high-efficiency wireless (HEW) devices are provided. In one aspect, a method for wireless communication in an IEEE 802.11 wireless communication system including legacy and high-efficiency wireless (HEW) devices includes determining a first time interval for communication according to a HEW protocol. The method further includes transmitting, according to a legacy protocol, a first communication at least partially protecting reception of communications during the first time interval. Another method includes receiving a first communication announcing a second communication. The method further includes determining a first time interval for communication according to a HEW protocol. The method further includes transmitting, according to a legacy protocol, the second communication for at least partially protecting reception of communications during the first time interval.

Classifications:

International (IPC 8-9): H04L1/16 H04L12/801 H04L29/06 H04L29/08 H04L29/12 H04W48/02 H04W48/08 H04W72/04 H04W74/00 H04W74/02 H04W74/08 H04W80/00 H04W84/12 (Advanced/Invention); H04L12/801 H04W84/12 (Advanced/Non-invention)

CPC: H04L69/18 H04L61/6022 H04L1/1628 H04W84/12 H04L12/6418 H04L67/325 H04L69/22 H04L47/135 H04L47/14 H04L67/04 H04L67/18 H04W74/0816

US: 370/329 370/336



Family:

Publication number	Publication date	Application number	Application date
BR112016010836 A2	20170808	BR20161110836	20141112
CN105723669 A	20160629	CN201480062684	20141112
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WO15073559 A1	20150521	WO2014US65267	20141112
WO16187299 A1	20161124	WO2016US33076	20160518

Priority:

US20130904374P 20131114 US20140538658 20141111 WO2014US65267 20141112
US20150163050P 20150518 US20160157255 20160517

Probable Assignee: QUALCOMM INC

Assignee(s): (std): QUALCOMM INC

Inventor(s): (std): WENTINK MAARTEN MENZO

Inventor(s): MAARTEN MENZO WENTINK

Agent(s): WEGNER HANS; KNOBBE MARTENS OLSON AND BEAR LLP; NELSON ERIC M; PARADICE III WILLIAM 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

3) Family number: 61747664 (US2017272138A)

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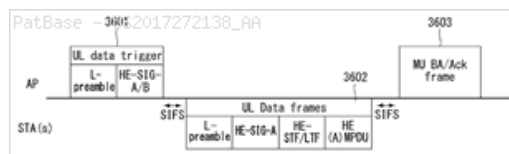
Title: METHOD FOR UPLINK MULTI-USER TRANSMISSION IN WIRELESS COMMUNICATION SYSTEM AND APPARATUS THEREFOR

Abstract: In the present invention, disclosed is a method for uplink multi-user transmission in a wireless communication system and an apparatus therefor. Specifically, a method for performing, by a station (STA), uplink (UL) multi-user (MU) transmission in a wireless communication system comprises the steps of: receiving, from an access point (AP), a trigger frame including information for UL MU transmission; and transmitting an UL MU PPDU on the basis of the information for UL MU transmission, wherein the trigger frame is a medium access control (MAC) frame, a MAC header of the trigger frame includes a type field and a subtype field, and the type of the trigger frame may be indicated by the type field and the subtype field.

Classifications:

International (IPC 8-9): H04B7/02 H04B7/0452 H04B7/06 H04L1/00 H04L1/06 H04L29/08 H04W74/00 (Advanced/Invention)

CPC: H04L29/08 H04B7/0613 H04B7/0452 H04W74/006 H04L1/0643 H04L69/323 H04W72/042 H04B7/063 H04B7/0669 H04B7/0695 H04L1/0031 H04L1/0083 H04L1/1614 H04L1/1685



Family:

Publication number	Publication date	Application number	Application date
US2017272138 AA	20170921	US20150505561	20150824
US10128925 BB	20181113	US20150505561	20150824
WO16028131 A1	20160225	WO2015KR08845	20150824

Priority:

US20140040431P 20140822 US20140049368P 20140912 US20150120883P 20150226
WO2015KR08845 20150824 US20150505561 20150824

Probable Assignee: LG ELECTRONICS INC

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

Inventor(s): (std): KIM SUHWOOK ; CHO HANGYU ; RYU KISEON ; CHUN JINYOUNG ; LEE WOOKBONG ; CHO JINSOO ; CHOI JINSOO

Agent(s): LEE HONG DEGERMAN KANG WAIMEY; ROYAL PATENT AND LAW OFFICE

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 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

4) Family number: 59284677 (US2015139089A)

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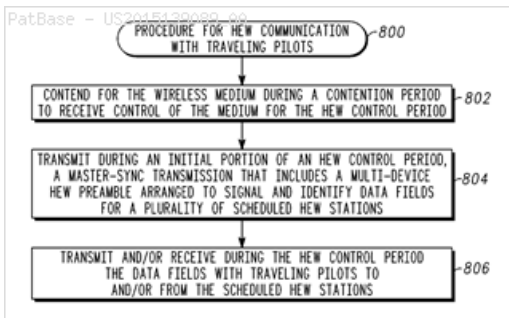
Title: MASTER STATION AND METHOD FOR HIGH-EFFICIENCY WI-FI (HEW) COMMUNICATION USING TRAVELING PILOTS

Abstract: Embodiments of a master station and method for high-efficiency Wi-Fi (HEW) communication using traveling pilots are generally described herein. In some embodiments, the master station is arranged for communicating with a plurality of HEW and may be configured to transmit, during an initial portion of an HEW control period, a master-sync transmission that includes a multi-device HEW preamble arranged to signal and identify data fields for a plurality of scheduled HEW stations. The master station may transmit during the HEW control period the data fields with traveling pilots to the scheduled HEW stations. The master station may also receive data fields with traveling pilots transmitted by the scheduled HEW stations during the HEW control period. The traveling pilots may comprise pilot signals that are shifted among orthogonal-frequency multiplexed (OFDM) subcarriers during transmission of one or more of the data fields.

Classifications:

International (IPC 8-9): C09D5/00 G08C17/00 H04B1/76 H04B17/336 H04B5/00 H04B7/005 H04B7/02 H04B7/04 H04B7/0413 H04B7/0452 H04B7/24 H04B7/26 H04J11/00 H04K1/10 H04L1/00 H04L1/16 H04L1/18 H04L12/70 H04L27/00 H04L27/18 H04L27/26 H04L27/34 H04L29/02 H04L29/06 H04L29/08 H04L5/00 H04L5/02 H04L5/06 H04W16/14 H04W24/00 H04W24/02 H04W28/06 H04W28/12 H04W4/00 H04W52/02 H04W52/24 H04W52/26

H04W52/42 H04W52/52 H04W56/00 H04W72/04 H04W72/12
H04W74/00 H04W74/02 H04W74/04 H04W74/06 H04W74/08
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H04W88/18 (Advanced/Invention);
H04L1/16 H04L27/34 H04L27/36 H04W52/34 H04W56/00 H04W74/08
H04W84/12 H04W88/08 H04W88/10 (Advanced/Non-invention)
CPC: H04W52/267 H04W16/14 H04W52/244 H04W72/0426
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US: 1/1 370/210 370/311 370/328 370/329 370/330 370/338 375/260 375/267



Family:

Publication number	Publication date	Application number	Application date
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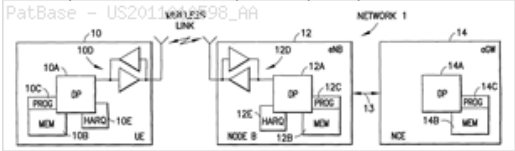
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5) Family number: 43127898 (US2011010598A) © PatBase

Title: USER SPECIFIC LOAD BALANCING

Abstract: In accordance with exemplary embodiments of the invention there is a method and apparatus to detect with a hybrid automatic repeat request function a collision between an uplink packet re-transmission and a new uplink packet transmission within a hybrid automatic repeat request process, and in response, to dynamically allocating resources for transmitting the new uplink packet transmission in a different hybrid automatic repeat request process that does not collide with the uplink packet re-transmission. In accordance with other exemplary embodiments of the invention, there is a method and apparatus to transmit a packet re-transmission in a hybrid automatic repeat request process using a semi-persistently scheduled uplink resource, and responsive to receiving a dynamic allocation of a different hybrid automatic repeat request process, to transmit a new packet using the dynamically allocated different hybrid automatic repeat request process.

Classifications:
International (IPC 8-9): G06F11/14 H04L1/16 H04L1/18 H04W72/12 (Advanced/Invention); H04L1/16 H04W72/00 (Core/Invention)
CPC: H04W72/1268 H04L1/1812 H04L1/1822 H04L1/1887 H04W72/04
European: H04L1/18D H04L1/18H H04L1/18T7 H04W72/12D2 T04W72/04
US: 714/748 714/748P 714/751 714/E11.113 714/E11.113S



Family:

Publication number	Publication date	Application number	Application date
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Priority:
US20070997765P 20071005 EP20080835383 20080930 WO2008IB53983 20080930
US20080681687 20080930

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