2.4G 20MHz 1x1 Rates

MCS	Modulation	NSS	LGI PHY rate(Mbps)
0	BPSK	1	6.5
1	QPSK	1	13
2	QPSK	1	19.5
3	16-QAM	1	26
4	16-QAM	1	39
5	64-QAM	1	52
6	64-QAM	1	58.5
7	64-QAM	1	65

FIG. 15D

Instruction	TPUT (mbps)
Too close	> 180
A bit close	140-180
Good	120-140
A bit far	80-120
Too far	< 80

Example Instruction Mapping for Link-Orbi-5G

FIG. 16

WLAN Coverage	TPUT (mbps)
Good	> 30
Ok	10-30
Bad	< 10

FIG. 17A

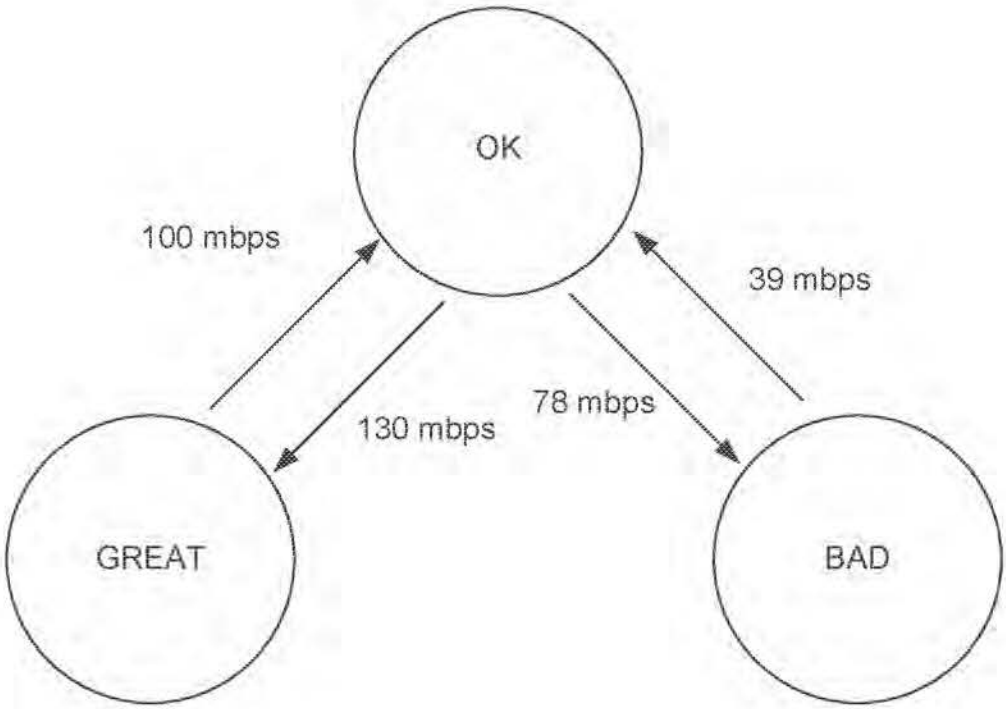

FIG. 17B

Device	802.11v	802.11k	802.11r
iPhone 6s	Yes	Yes	Yes
iPhone 6s Plus	Yes	Yes	Yes
iPhone 6	Yes	Yes	Yes
iPhone 6 Plus	Yes	Yes	Yes
iPhone 5s	Yes	Yes	Yes
iPhone 5c	Yes	Yes	Yes
iPad Air	Yes	Yes	Yes
iPad Air 2	Yes	Yes	Yes
iPad Mini 3	Yes	Yes	Yes
iPad Mini 2 Retina	Yes	Yes	Yes

FIG. 18A

Device	802.11v	802.11k	802.11r
Galaxy s6	No	Yes	Yes
Galaxy s5	No	Yes	Yes
Galaxy s4	No	Yes	Yes
HTC One	Yes	Yes	Yes

FIG. 18B

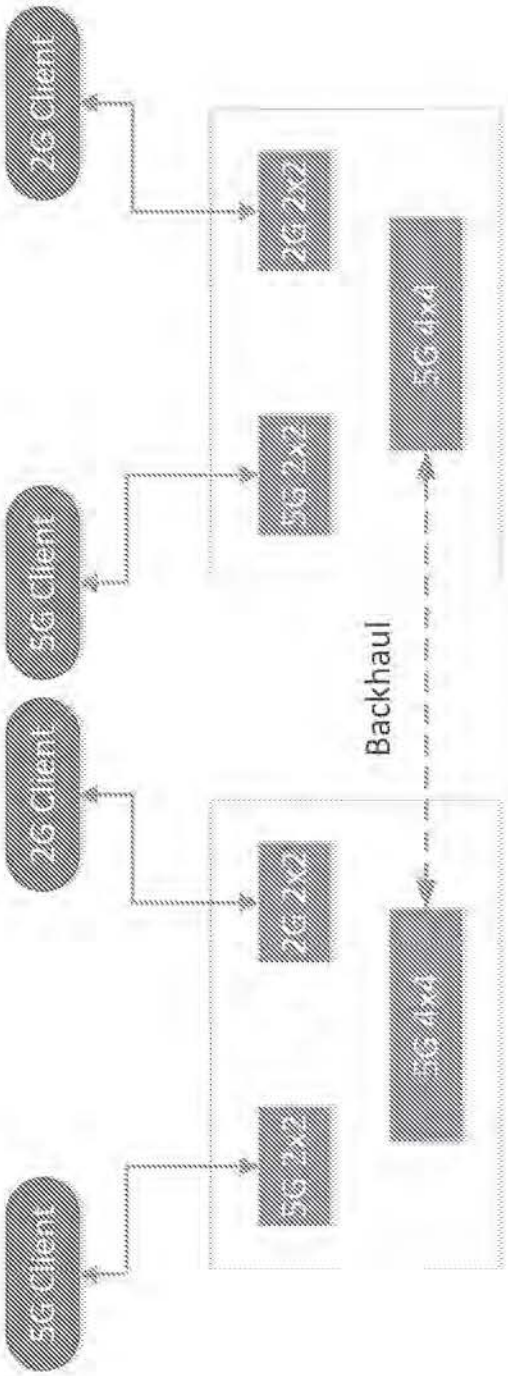
2G Client
5G Client
2G Client
5G Client
2G 2x2
5G 2x2
2G 2x2
5G 2x2
Backhaul
5G 4x4
5G 4x4

FIG. 19

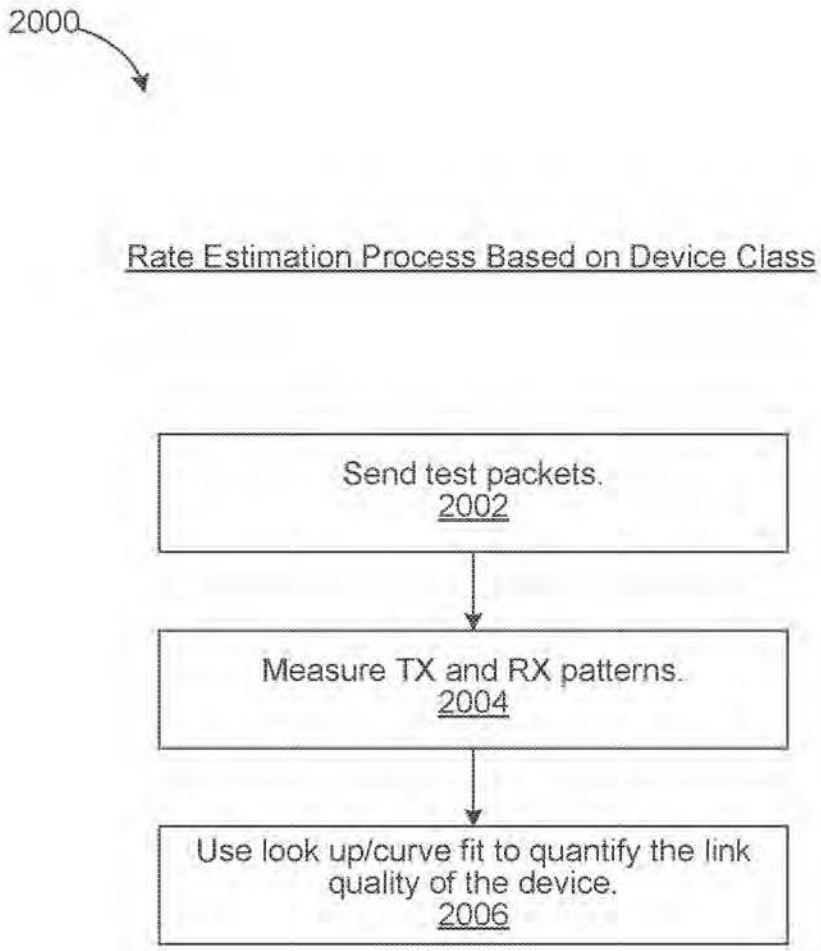
2000
Rate Estimation Process Based on Device Class
Send test packets.
2002
Measure TX and RX patterns.
2004
Use look up/curve fit to quantify the link quality of the device.
2006

FIG. 20A

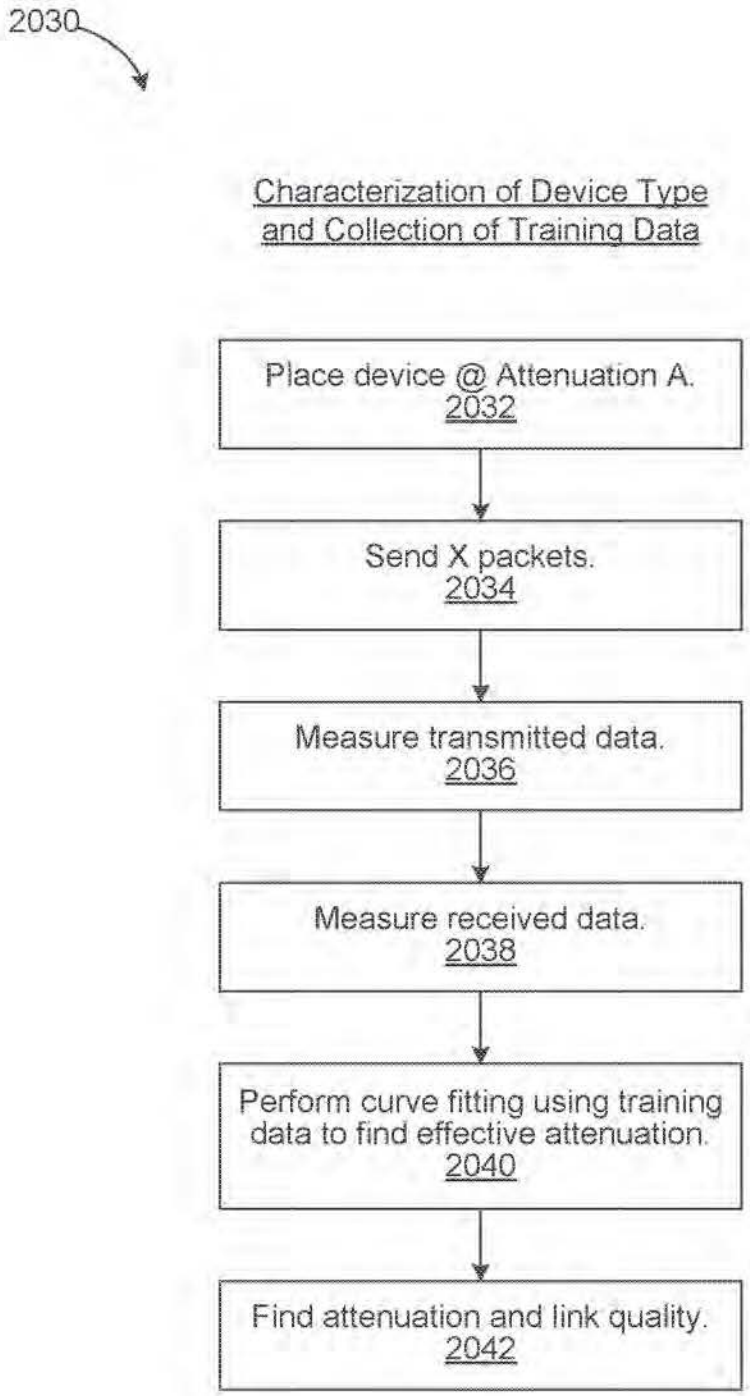
2030
Characterization of Device Type and Collection of Training Data
Place device @ Attenuation A. 2032
Send X packets. 2034
Measure transmitted data. 2036
Measure received data. 2038
Perform curve fitting using training data to find effective attenuation. 2040
Find attenuation and link quality. 2042

FIG. 20B

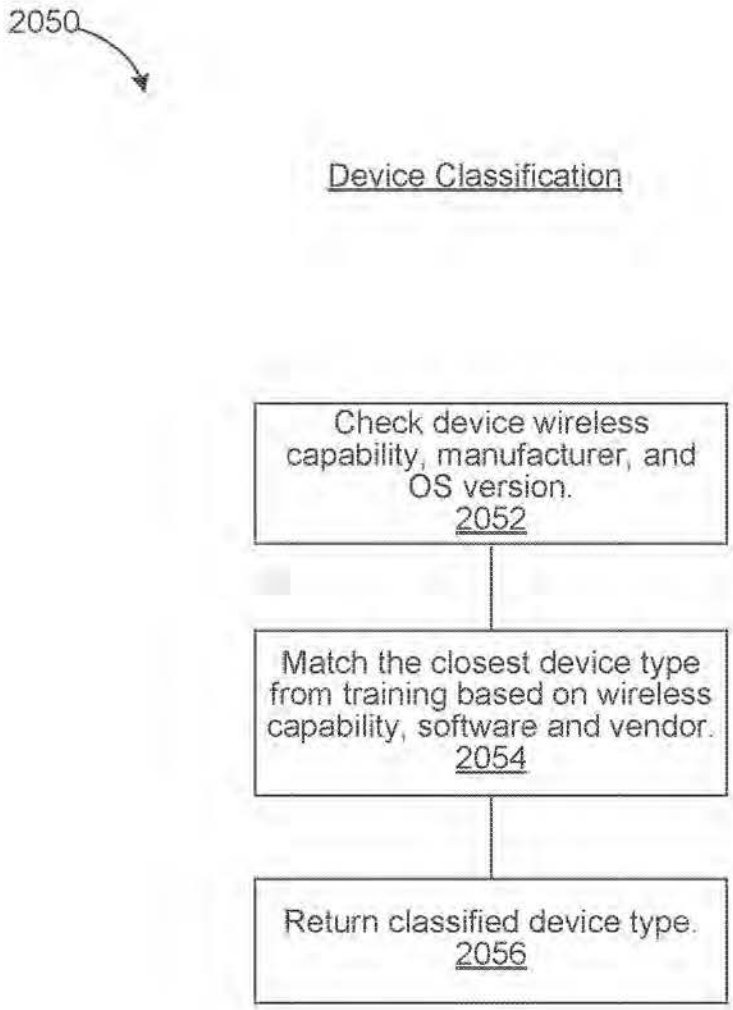
2050
Device Classification
Check device wireless capability, manufacturer, and OS version.
2052
Match the closest device type from training based on wireless capability, software and vendor.
2054
Return classified device type.
2056

FIG. 20C

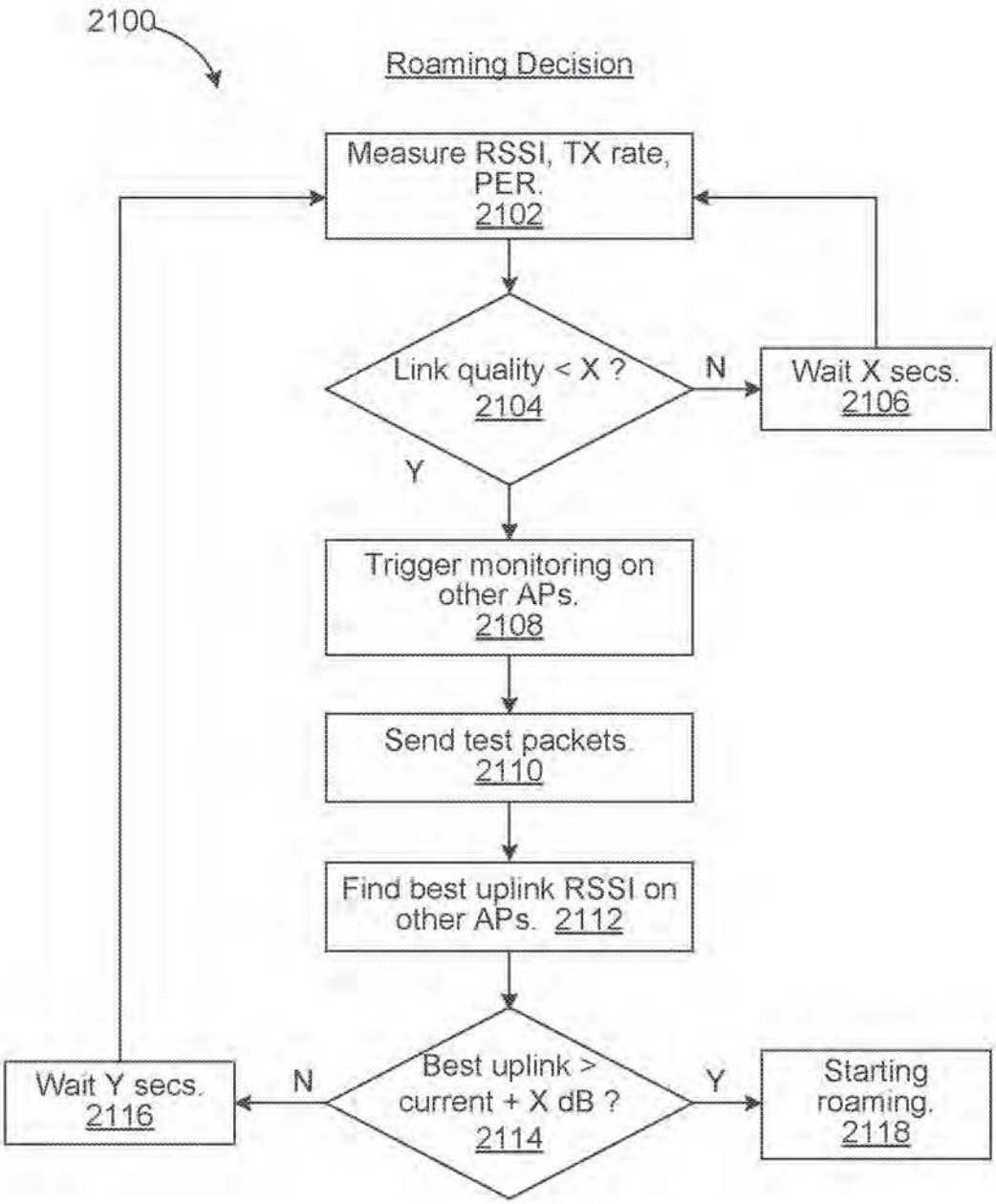
2100
Roaming Decision
Measure RSSI, TX rate, PER. 2102
Link quality < X ? 2104
N
Wait X secs. 2106
Y
Trigger monitoring on other APs. 2108
Send test packets. 2110
Find best uplink RSSI on other APs. 2112
Best uplink > current + X dB ? 2114
N
Wait Y secs. 2116
Y
Starting roaming. 2118

FIG. 21

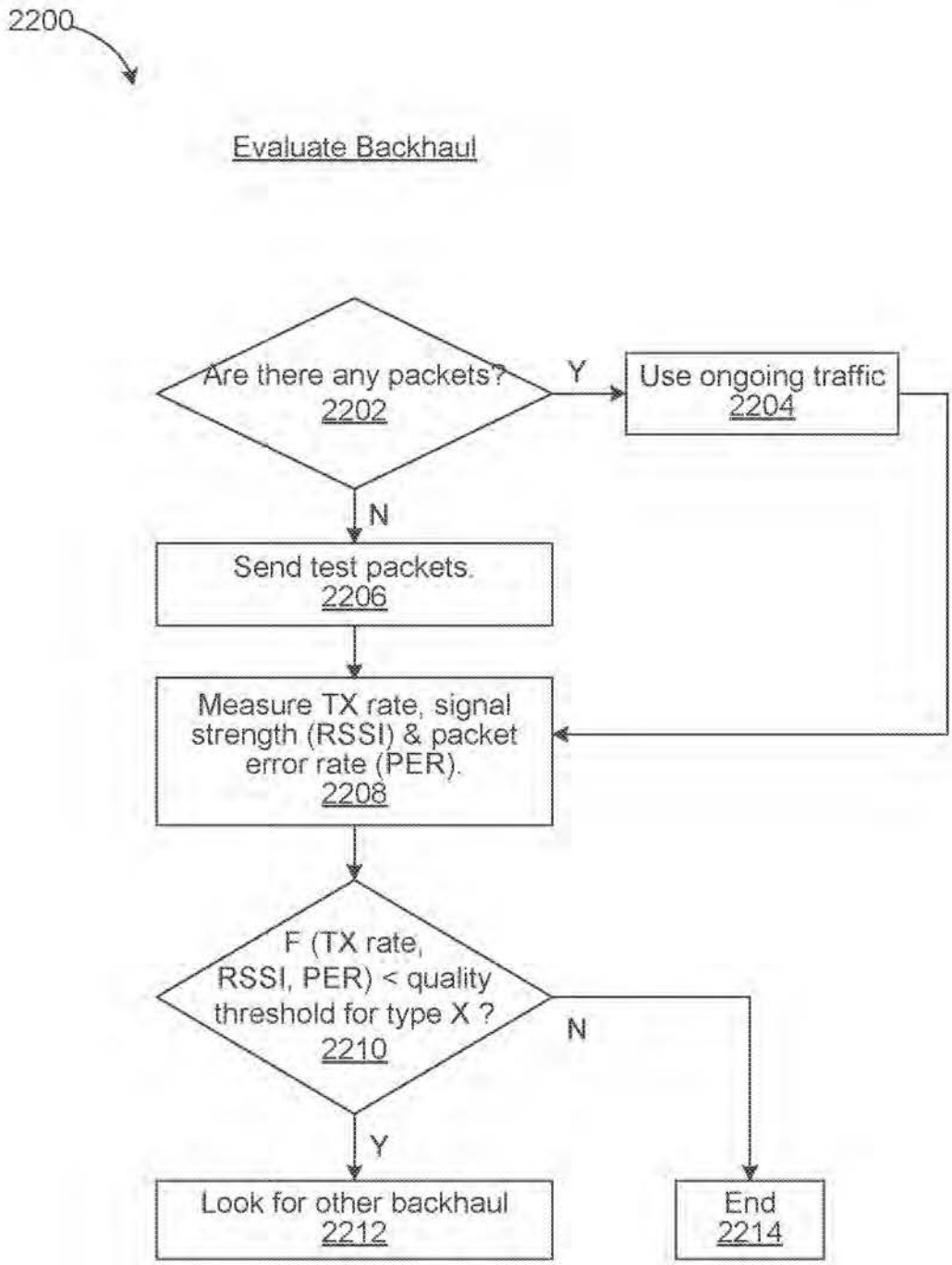
2200
Evaluate Backhaul
Are there any packets?
2202
Y
Use ongoing traffic
2204
N
Send test packets.
2206
Measure TX rate, signal strength (RSSI) & packet error rate (PER).
2208
F (TX rate, RSSI, PER) < quality threshold for type X ?
2210
N
Y
Look for other backhaul
2212
End
2214

FIG. 22A

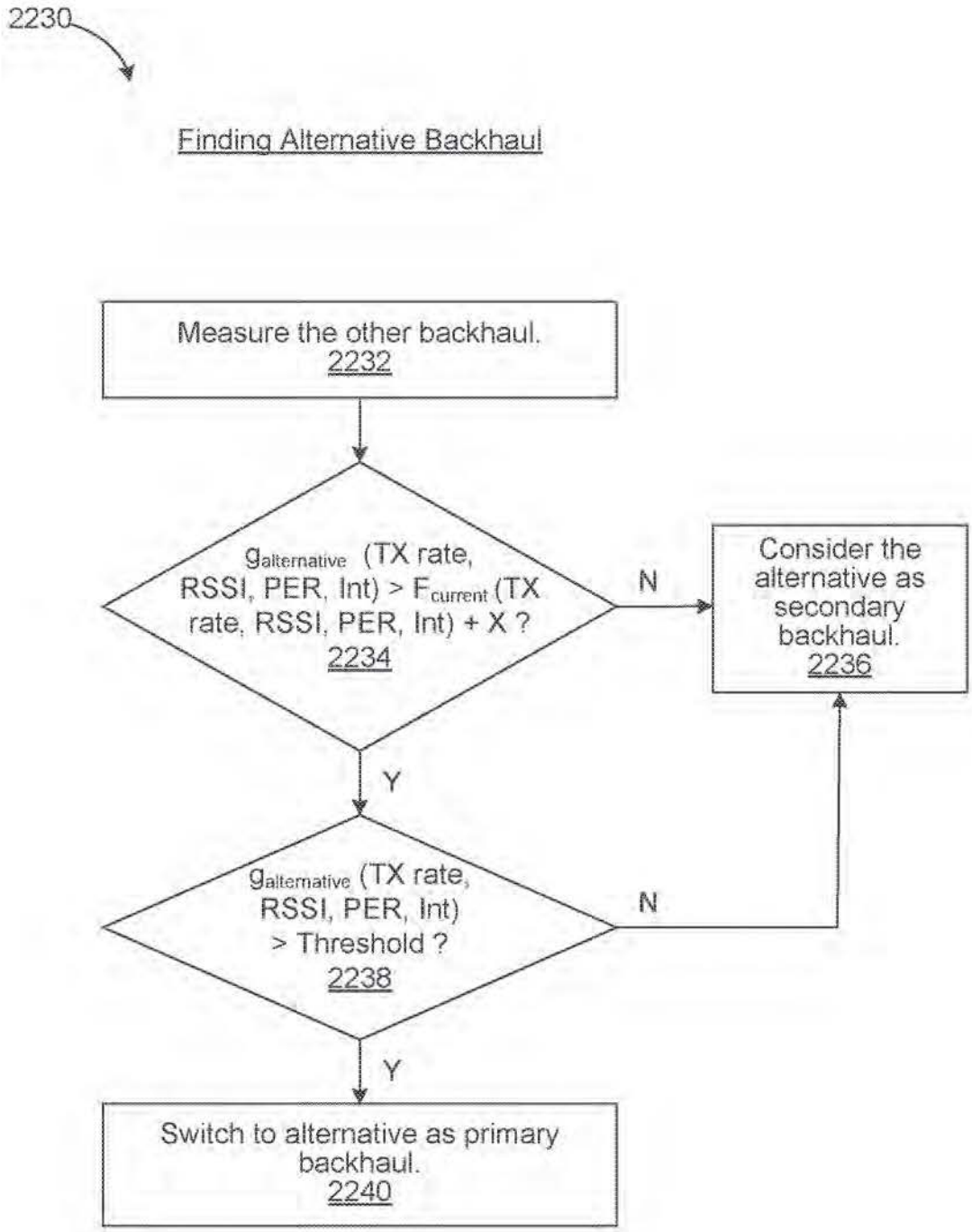
2230
Finding Alternative Backhaul
Measure the other backhaul.
2232
$g_{alternative}$ (TX rate, RSSI, PER, Int) > $F_{current}$ (TX rate, RSSI, PER, Int) + X ?
2234
N
Consider the alternative as secondary backhaul.
2236
Y
$g_{alternative}$ (TX rate, RSSI, PER, Int) > Threshold ?
2238
N
Y
Switch to alternative as primary backhaul.
2240

FIG. 22B

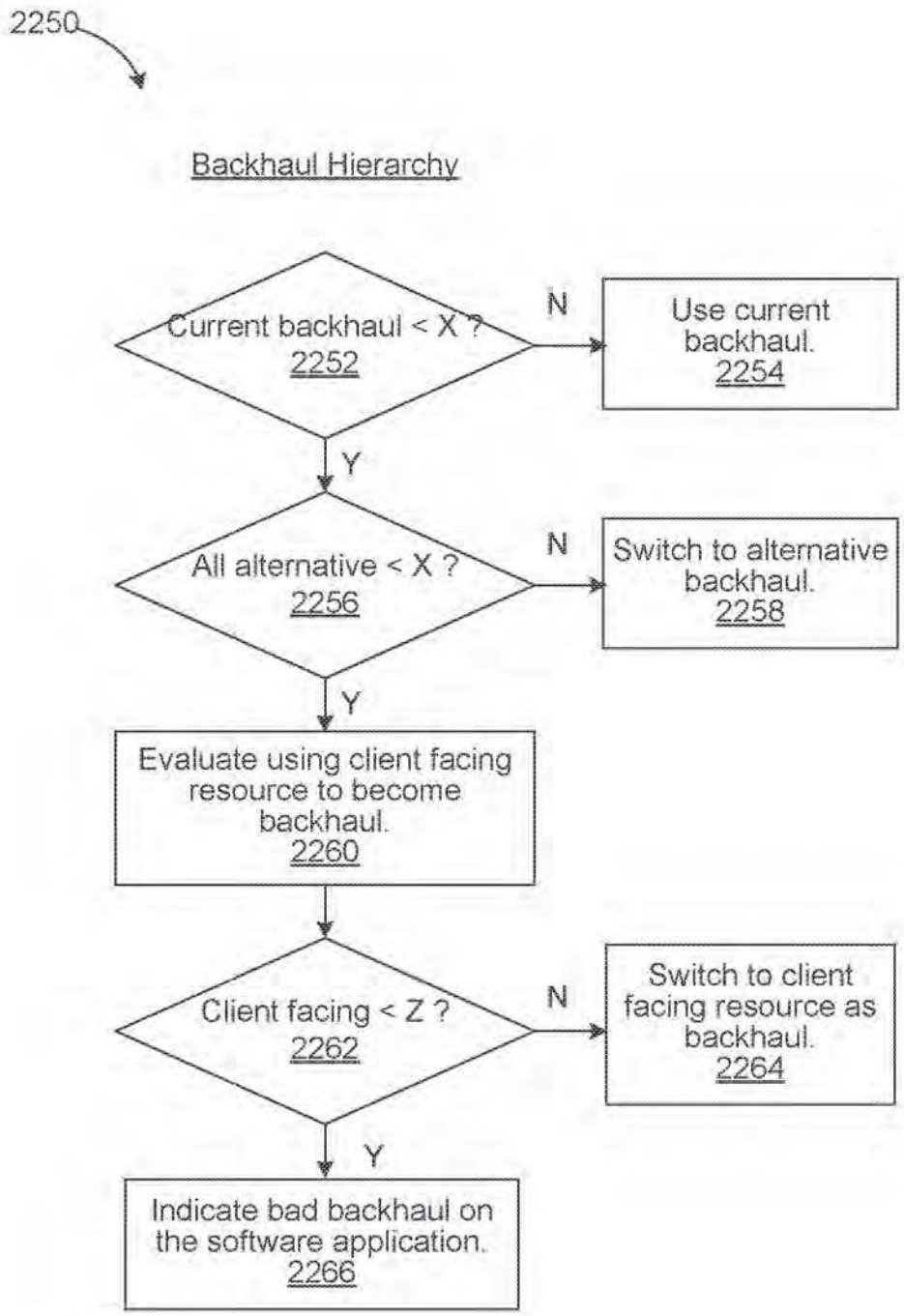
2250
Backhaul Hierarchy
Current backhaul < X ?
2252
N
Use current backhaul.
2254
Y
All alternative < X ?
2256
N
Switch to alternative backhaul.
2258
Y
Evaluate using client facing resource to become backhaul.
2260
Client facing < Z ?
2262
N
Switch to client facing resource as backhaul.
2264
Y
Indicate bad backhaul on the software application.
2266

FIG. 22C

SCORE Placeholder Sheet for IFW Content

Application Number: 15287706 Document Date: 10/06/2016

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/287,706	10/06/2016	2414	1740	110729-8052.US01	20	1

CONFIRMATION NO. 8691

22918
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WA 98111-1247

FILING RECEIPT

OC000000086374165

Date Mailed: 10/20/2016

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Inventor(s)

Peiman Amini, Mountain View, CA;
Joseph Amalan Arul Emmanuel, Cupertino, CA;

Applicant(s)

NETGEAR, INC., San Jose, CA

Power of Attorney: The patent practitioners associated with Customer Number 22918

Domestic Priority data as claimed by applicant

This appln claims benefit of 62/253,540 11/10/2015
and claims benefit of 62/336,503 05/13/2016

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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Permission to Access Search Results: Yes

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/287,706**

Projected Publication Date: 05/11/2017

Non-Publication Request: No

Early Publication Request: No
Title

ROAMING IN A WIRELESS MESH NETWORK

Preliminary Class

370

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
15/287,706

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1600

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
AMENDMENT A	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
AMENDMENT A	Application Size Fee (37 CFR 1.16(s))									
AMENDMENT A	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
AMENDMENT B	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
AMENDMENT B	Application Size Fee (37 CFR 1.16(s))									
AMENDMENT B	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/287,706	10/06/2016	Peiman Amini	110729-8052.US01

CONFIRMATION NO. 8691

22918
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WA 98111-1247

INFORMAL NOTICE

OC000000086574166

Date Mailed: 10/20/2016

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- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Peiman Amini
  Joseph Amalan Arul Emmanuel

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Application	Document	Mailroom Date	Attorney Docket No.
15287706	APP.FILE.REC	10/20/2016	110729-8052.US01
	M327	10/20/2016	110729-8052.US01

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15/287,706	10/06/2016	Peiman Amini	110729-8052.US01

CONFIRMATION NO. 8691

PUBLICATION NOTICE

22918
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WA 98111-1247

OC000000091304073

Title:ROAMING IN A WIRELESS MESH NETWORK

Publication No.US-2017-0135018-A1
Publication Date:05/11/2017

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The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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Application	Document	Mailroom Date	Attorney Docket No.
15287706	NTC.PUB	05/11/2017	110729-8052.US01

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/287,706	10/06/2016	Peiman Amini	110729-8052.US01	8691

22918 7590 04/12/2018
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WASHINGTON 98111-1247
UNITED STATES OF AMERICA

EXAMINER
YUEN, KAN

ART UNIT	PAPER NUMBER
2464	

NOTIFICATION DATE	DELIVERY MODE
04/12/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentprocurement@perkinscoie.com

Office Action Summary	Application No. 15/287,706	Applicant(s) Amini et al.	
	Examiner KAN YUEN	Art Unit 2464	AIA Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 10/6/2016.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-20 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-13 and 16-20 is/are rejected.

8) ☑ Claim(s) 14-15 is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☑ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-13, 16-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. Factors to be considered in an abstract idea determination of a method claim are (See MPEP 2106 (1) (a)-(d)).

Claim 1 is directed to a method (e.g., process) and recites, in part, steps of <u>measure qualitative parameters indicative of a potential link; transmitting the measured qualitative parameters to a controller; comparing the quality of the potential link and the quality of the current wireless link; roaming to a second mesh point when the potential link exceeds the quality of the current wireless link</u>. These steps describe the concept of information estimation based on determined and stored communication context, which similar to the concepts identified as abstract ideas by the courts, such as

obtaining and comparing intangible data (e.g., CyberSource); *and/or* ***Comparing new and stored information and using rules to identify options (e.g., SmartGene)***. All of these concept relate to an idea standing alone such as an uninstantiated concept as well as a mental process (thinking) that can be performed in the general purpose computer, human mind, or by a human using a pen and paper. The concept described in claim 1 is not meaningfully different than those found by the courts to be abstract ideas. As such, the description in claim 1 is an abstract idea.

Claim 1 does not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements when considered both individually and as an order combination do not amount to significantly more than the abstract idea. Claim 1 recites the additional limitations of a first mesh point, a client, a second mesh point, a controlling entity, which are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications. Claim 1 also recites the additional limitation: "establishing a wireless link; without requiring that the established wireless link to be lost", which is recited as performing generic computer functions routinely used in computer applications. Generic computer components recited as performing generic computer functions that are well-understood, routine and conventional activities amount to no more than implementing the abstract idea with a computerized system. The use of generic computer components for establishing a wireless link; without disconnecting the wireless link, measure qualitative parameters indicative of a potential link; transmitting the measured qualitative parameters to a controller; comparing the quality of the potential link and the quality of the current wireless link; roaming to a second mesh point when the potential link exceeds the quality of the current wireless link does not impose any meaningful limit on the computer implementation of the abstract idea. Thus, taken alone, the additional elements do not amount to significantly more than the above-identified judicial exception of the abstract idea. Considering the limitations as an ordered combination adds nothing that is not already present when considering the elements taken individually. There is no

indication that the combination of elements improves the functioning of a computer or improves any other technology. Their functions merely provide conventional computer implementation.

Claims 2-13, 16-20 do not include additional elements that are sufficient to amount to significantly more than the judicial exception.

Thus, claims 1-13, 16-20 are not drawn to eligible subject matter as they are directed to an abstract idea without significantly more.

Claim Rejections - 35 USC § 102

4. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

5. Claim(s) 1-4, 7-9, 19, 20 is/are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Lu (Pub No.: 2010/0260146).

Regarding claim 1, Lu discloses a computer-implemented method for roaming implementation in a wireless mesh network formed with one or more mesh points, the method comprising:

causing a wireless link to be established between a first mesh point (read as one of Mesh APs in paragraph 0042) **and a client** (read as mobile device in paragraph 0042) (Lu see fig. 1, fig. 10;

paragraphs 0042, 0044, 0045; the mobile station is connected/established with two best signal APs. When one link signal level is below certain threshold level, the mobile device select another best AP, if available and with better signal strength and quality and then connect to that AP);

without requiring that the established wireless link to be corrupted or lost (Lu see paragraph 0042; at the beginning, the mobile is connected to two best APs. Another best AP is selected when the signal of one of the currently connected APs fall below a threshold level), **causing a second mesh point** (read as Mesh AP 215 in fig. 10) **to measure a plurality of qualitative parameters indicative of a quality of a potential link between the second mesh point and the client** (Lu see fig. 10; paragraph 0079; each of the Mesh APs (e.g., 201, 202, 215 in fig. 10) includes a monitoring or scan logic configured to monitor its associated monitoring interface neighboring routing information for a better routing path. A better path may be identified based on parameters such as signal strength, hop count, number of downlink stations, etc.);

causing the plurality of qualitative parameters indicative of the quality of the potential link to be transmitted to a controlling entity (read as Mesh AP 201 in fig. 10) **of the wireless mesh network** (Lu see fig. 10, paragraph 0079; the measured/monitored information may be received as part of a beacon signal broadcast by each AP). Thus, the monitored information may be transmitted or broadcasted to Mesh AP 201;

comparing, by the controlling entity, the quality of the potential link between the second mesh point and the client against a quality of the established wireless link between the first mesh point and the client (Lu see fig. 12; paragraph 0079, 0080; a better path may be identified based on parameters such as signal strength, hop count, number of downlink stations, etc.). For example, AP 201 may identify a path via AP 215 is a better path than an existing path via AP 202 based on comparison of the monitored information; **and**

upon determining that the quality of the potential link exceeds the quality of the established wireless link by a select level, causing the controlling entity to issue one or more instructions resulting in the client roaming from the first mesh point to the second mesh point (Lu see fig. 10, paragraphs, 0079 0080; the management logic (not shown) of AP 201 may reconfigure uplink interface 203 to be associated with a downlink of AP 215, rather than the downlink of AP 202). Thus, the reconfiguration of uplink interface 203 to be associated with a downlink of AP 215 resulting the client 211 or 212 to roam from the AP 202 to AP 215.

Regarding claim 2, Lu discloses the feature wherein each mesh point in the wireless mesh network is capable of acting as the controlling entity (Lu see fig. 10, paragraphs, 0079 0080; each of the APs includes a monitoring interface as well as monitoring or scan logic for monitoring purposes similar to the Mesh AP 201). Thus, each of the AP is capable of operating as a controlling entity.

Regarding claim 3, Lu discloses the feature wherein a mesh point in the wireless mesh network is designated as the controlling entity (Lu see fig. 10, paragraphs, 0079 0080; AP 201 is selected/designated as the controlling entity).

Regarding claim 4, Lu discloses the feature wherein the controlling entity is the first mesh point (Lu see fig. 10, paragraphs, 0079 0080; AP 201 is selected as the first mesh point to the client 211).

Regarding claim 7, Lu discloses the feature for causing the first mesh point to measure the plurality of qualitative parameters indicative of the quality of the established wireless link between the first mesh point and the client; and causing the plurality of qualitative parameters to be transmitted to the controlling entity of the wireless mesh network (Lu see fig. 10; paragraph 0079; each of the Mesh APs (e.g., 201, 202, 215 in fig. 10) includes a monitoring or scan logic configured to monitor its associated monitoring interface neighboring routing information for a better routing path. A better path may be identified based on parameters such as signal strength, hop count, number of downlink stations,

etc. The measured/monitored information may be received as part of a beacon signal broadcast by each AP).

Regarding claim 8, Lu discloses the feature for constructing a list of roaming candidates, each roaming candidate having a score indicative of an estimated quality of a potential link between the client and a corresponding roaming candidate (see paragraphs 0040, 0079; each AP includes a dedicated wireless interface or antenna to actively monitor operations such as routing information of neighboring APs in order to determine an optimum route for its associated uplink path, downlink path, and local link path). Optimum route may be determined based on signal strength, number of downlink stations, etc.

Regarding claim 9, Lu discloses the feature wherein the controlling entity is configured to select a roaming candidate with the highest score on the list of roaming candidates as the second mesh point (see paragraph 0079; a better path may be identified based on various information obtained by the monitoring logic from neighboring APs). Thus, better path is selected for roaming from a list of remaining neighboring APs.

Regarding claim 19, Lu discloses the feature wherein the one or more instructions include: roaming the client to another mesh point, roaming the client to another frequency band, roaming the client to another channel, or a combination thereof (Lu see fig. 10, paragraphs, 0079 0080; the management logic (not shown) of AP 201 may reconfigure uplink interface 203 to be associated with a downlink of AP 215, rather than the downlink of AP 202). Thus, the reconfiguration of uplink interface 203 to be associated with a downlink of AP 215 resulting the client 211 or 212 to roam from the AP 202 to AP 215.

Regarding claim 20, Lu discloses the feature wherein the plurality of qualitative parameters include, in addition to an received signal strength indicator (RSSI) value: a potential or current transmission data rate, a potential or current packet aggregate size, a potential or current packet error

rate (PER), a potential or current retry count, a potential or current available airtime, and/or a potential or current delay on the link (Lu see paragraph 0087).

Claim Rejections - 35 USC § 103

6. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim(s) 5 is/are rejected under 35 U.S.C. 102(a)(1) as anticipated by or, in the alternative, under 35 U.S.C. 103 as obvious over Lu (Pub No.: 2010/0260146).

Regarding claim 5, Lu does not explicitly disclose wherein the controlling entity is a server remote from the wireless mesh network. However, Lu further discloses in fig. 11, where AP 350 further

includes a management interface 308 to allow a management station 309 to communicate with AP 350 over a network 310 for management purposes). Thus, management station 309 may be part of the AP 350 located remotely from the mesh network where AP 350 currently recites. An official notice is taken that using a server remote from a wireless mesh network is well known in the art to alleviate traffic load within the wireless network.

It would have been obvious to one of ordinary skill in the art to modify the disclosure of Lu and to use a server remotely from the wireless network.

The motivation would be to improve transmission reliability.

8. Claim 6 is/are rejected under 35 U.S.C. 103 as being unpatentable over Lu (Pub No.: 2010/0260146) in view of Mochida et al. (Pub No.: 2012/0225646).

Regarding claim 6, Lu does not explicitly disclose the feature for routing the one or more instructions to the first and second mesh points.

Mochida et al. from the same or similar fields of endeavor discloses the feature for routing the one or more instructions to the first and second mesh points (Mochida et al. see paragraphs 0137; gateway 9 notifies a plurality of femtocell base stations connect establishing instructions).

It would have been obvious to a person having ordinary skill in the art before the effective filing date of the claimed invention to modify the disclosure of Lu and to implement the feature/teaching as taught by Mochida et al. to notify a plurality of base stations about establishment instructions.

The motivation would be to improve transmission reliability.

9. Claim 10 is/are rejected under 35 U.S.C. 103 as being unpatentable over Lu (Pub No.: 2010/0260146) in view of Ko et al. (Pub No.: 2009/0221238).

Regarding claim 10, Lu does not explicitly disclose the feature wherein one or more of the plurality of qualitative parameters are averaged over a select amount of packets.

Ko et al. from the same or similar fields of endeavor discloses the feature wherein one or more of the plurality of qualitative parameters are averaged over a select amount of packets (Ko et al. see paragraphs 0016, 0034).

It would have been obvious to a person having ordinary skill in the art before the effective filing date of the claimed invention to modify the disclosure of Lu and to implement the feature/teaching as taught by Ko et al. to average channel quality information.

The motivation would be to improve transmission efficiency.

10. Claim 11 is/are rejected under 35 U.S.C. 103 as being unpatentable over Lu (Pub No.: 2010/0260146) in view of Fernando et al. (Pub No.: 2015/0092681).

Regarding claim 11, Lu does not explicitly disclose the feature for adjusting the plurality of qualitative parameters based on a modulation and coding scheme used in the established wireless link.

Fernando et al. from the same or similar fields of endeavor discloses the feature for adjusting the plurality of qualitative parameters based on a modulation and coding scheme used in the established wireless link (Fernando et al. see abstract; paragraph 0007).

It would have been obvious to a person having ordinary skill in the art before the effective filing date of the claimed invention to modify the disclosure of Lu and to implement the feature/teaching as taught by Fernando et al.

The motivation would be to improve transmission efficiency.

11. Claims 12, 13 is/are rejected under 35 U.S.C. 103 as being unpatentable over Lu (Pub No.: 2010/0260146) in view of Kelly et al. (Pub No.: 2007/0280453).

Regarding claim 12, Lu does not explicitly disclose the feature for establishing a profile containing, for a select number of clients, a roaming capability and a roaming behavior of each client; and selecting, for each client, the one or more instructions based on a profile of a corresponding client.

Kelly et al. from the same or similar fields of endeavor discloses the feature for establishing a profile containing, for a select number of clients, a roaming capability and a roaming behavior of each client; and selecting, for each client, the one or more instructions based on a profile of a corresponding client (Kelly et al. see paragraphs 0007, 0052).

It would have been obvious to a person having ordinary skill in the art before the effective filing date of the claimed invention to modify the disclosure of Lu and to implement the feature/teaching as taught by Kelly et al. to create profiles based on roaming features, behaviors, conditions and to select a profile corresponds to user requests.

The motivation would be to improve transmission efficiency.

Regarding claim 13, Kelly et al. discloses the feature wherein the profiled is established based on one or more unique identifiers of the client (Kelly et al. see fig. 4; step 402; paragraph 0052; identify a profile associated with a roaming condition).

12. Claim 16 is/are rejected under 35 U.S.C. 103 as being unpatentable over Lu (Pub No.: 2010/0260146) in view of Babiarz et al. (Pub No.: 2012/0224484).

Regarding claim 16, Lu doe not explicitly disclose the feature wherein the one or more instructions are IEEE 802.11v, IEEE 802.11k and/or IEEE 802.11 r compliant instructions.

Babiarz et al. from the same or similar fields of endeavor discloses the feature wherein the one or more instructions are IEEE 802.11v, IEEE 802.11k and/or IEEE 802.11 r compliant instructions (Babiarz et al. see paragraph 0305).

It would have been obvious to a person having ordinary skill in the art before the effective filing date of the claimed invention to modify the disclosure of Lu and to implement the feature/teaching as taught by Babiarz et al.

The motivation would be to improve transmission efficiency.

13. Claim 17, 18 is/are rejected under 35 U.S.C. 103 as being unpatentable over Lu (Pub No.: 2010/0260146) in view of SU et al. (Pub No.: 2009/0135794).

Regarding claim 17, Lu does not explicitly disclose the feature for delaying issuance of the one or more instructions if the client has active data traffic and/or if a quality of service (QoS) option is active.

SU from the same or similar fields of endeavor discloses the feature for delaying issuance of the one or more instructions if the client has active data traffic and/or if a quality of service (QoS) option is active (SU et al. see paragraph 0025).

It would have been obvious to a person having ordinary skill in the art before the effective filing date of the claimed invention to modify the disclosure of Lu and to implement the feature/teaching as taught by SU et al. to delay roaming during high traffic status of the current AP.

The motivation would be to reduce transmission error rate.

Regarding claim 18, SU et al. discloses the feature wherein the QoS option requires a minimum service level for a type of the active data traffic (SU et al. see paragraph 0025).

Allowable Subject Matter

14. Claims 14, 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Examiner's Note

15. The Applicant is welcome to request a telephonic interview if the Applicant has any questions or requires any additional information that would further or expedite the prosecution of the application.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAN YUEN whose telephone number is (571)270-1413. The examiner can normally be reached on Monday - Friday 11pm-7pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KAN YUEN/
Primary Examiner, Art Unit 2464

Notice of References Cited	Application/Control No. 15/287,706	Applicant(s)/Patent Under Reexamination Amini et al.	
	Examiner KAN YUEN	Art Unit 2464	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20100260146-A1	10-2010	Lu; Wenchen	H04L12/4633	370/331
*	B	US-20120225646-A1	09-2012	Mochida; Eiji	H04W92/20	455/422.1
*	C	US-20090221238-A1	09-2009	Ko; Young-Jo	H04L1/0019	455/67.13
*	D	US-20150092681-A1	04-2015	FERNANDO; Udara Charman	H04W24/10	370/329
*	E	US-20070280453-A1	12-2007	Kelley; Sean S.	H04L67/16	379/201.01
*	F	US-20120224484-A1	09-2012	Babiarz; Jozef	H04L41/5019	370/235
*	G	US-20090135794-A1	05-2009	SU; CHI-CHUNG	H04W36/26	370/338
	H					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/287,706	Amini et al.
	Examiner	Art Unit
	KAN YUEN	2464

CPC - Searched*		
Symbol	Date	Examiner
H04L12/44 ; H04L43/0888 ; H04L43/0894 ; H04L43/10 ; H04L43/16 ; H04L45/20 ; H04W24/04 ; H04W24/06 ; H04W24/08 ; H04W36/30 ; H04W36/36 ; H04W40/12 ; H04W4/023 ; H04W72/0453 ; H04W72/085 ; H04W76/10 ; H04W76/15 ; H04W84/12 ; H04W84/18	03/14/2018	KY

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST SEARCH; MANUAL SEARCH H04L12/44	03/14/2018	KY
INVENTORSHIP SEARCH	03/14/2018	KY

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/287,706	Amini et al.
	Examiner	**Art Unit**
	KAN YUEN	2464

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	03/14/2018								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
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	15	O								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S3	133379	((H04L12/44 OR H04L43/0888 OR H04L43/0894 OR H04L43/10 OR H04L43/16 OR H04L45/20 OR H04W24/04 OR H04W24/06 OR H04W24/08 OR H04W36/30 OR H04W36/36 OR H04W40/12 OR H04W4/023 OR H04W72/0453 OR H04W72/085 OR H04W76/10 OR H04W76/15 OR H04W84/12 OR H04W84/18).CPC.)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/12 22:03
S4	1	15/287706 (qualitative near3 parameter)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/12 22:04
S9	2795	(roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (exceed$4 or below or above or under or low$4 or high$4) near6 (threshold$4 or predefin$4 or predetermin$4 or preset$4 or pre-defin$4 or pre-determin$4 or pre-set$4 or limit)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:31
S10	7212	(parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (monitor$4 or measur$4 or measurement or determin$4 or detect$4) with mesh$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:34
S11	19	S9 S10	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:34
S12	19	S9 S10	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:34
S13	1	15/287706 (monitor$4 or measur$6) with (quality or strength)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 15:48

S14	2	12/820988 (monitor$4 or measur$6) with (quality or strength)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 15:59
S15	2	12/820988 (reconfigur$6 with uplink)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:12
S16	2	12/820988 (termina$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:13
S17	81825	(notif$4 or notification or configuration or reconfigur$4) with (terminat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:32
S18	2976	(notif$4 or notification or configuration or reconfigur$4) with instruct$4 with (terminat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:36
S19	2883	(notif$4 or notification or configuration or reconfigur$4) with instruct$4 with (establish$4 or setup or initiat$4) with (connection or channel or link or (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:37
S20	135	S18 S19	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:38
S21	135	S18 S19	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:38
S22	268	(configuration or reconfigur$4) near7 instruct$4 with (notif$4 or notification or report$4) with (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:48
S23	268	(configuration or reconfigur$4) near7 instruct$4 with (notif$4 or notification or report$4) with (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:48

S24	2	(configuration or reconfigur$4) near7 instruct$4 with (establish$4 or setup or initiat$4) with roam$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:51
S25	2	12/820988 (monitor$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 18:06
S26	1342	(calculat$4) with (averag$4) with (snr)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S27	225	(path) with (averag$4) with (snr)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S28	37	S26 S27	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S29	37	S26 S27	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S30	1	15/287706 (modulat$4 near3 scheme)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:01
S31	1	15/287706 ((modulat$4 near3 scheme) or mcs)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:02
S32	5970	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength)))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:11
S33	1394	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength))) with (increas$4 or decreas$4 or reduc$4 or adjust$4 or chang$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:12

S34	1394	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength))) with (increas$4 or decreas$4 or reduc$4 or adjust$4 or chang$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:13
S35	226	(profile) with (roam$4 near8 capabilit$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:41
S36	3410	(profile) with (roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:46
S37	1	15/287706 (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:47
S38	13	(roam$4 near5 capabilit$4) same (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:48
S39	13	(roam$4 near5 capabilit$4) same (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:48
S40	1	15/287706 (roam$4 near4 behavior) and (roam$4 near3 capabilit$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:49
S41	56	profil$4 with (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:51
S42	56	profil$4 with (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:51
S43	1	15/287706 (intelligent near4 roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:57

S44	406	(intelligent near4 roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:58
S45	4	(intelligent near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:01
S46	4	(intelligent near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:01
S47	5	((intelligen$6 or smart) near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:06
S48	10	((intelligen$6 or smart) near6 roam$4) same (identif$4 or identification or id or address or unique) near9 (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:08
S49	1	15/287706 (intelligent near4 roam$4) same mesh	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:12
S50	180	((intelligen$6 or smart) near6 roam$4) same (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:12
S51	1	15/287706 (roam$4 near4 direct$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:13
S52	1	15/287706 (intelligent near4 roam$4) same instruction	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:14
S53	46	(delay$4 or postpon$4) near9 (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (uplink or upstream) near6 (data or packet)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:17

S54	46	(delay$4 or postpon$4) near9 (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (uplink or upstream) near6 (data or packet)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:18
S55	0	(roam$4 near9 instruct$4) with (IEEE near5 "802.11v")	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S56	397	(IEEE near5 "802.11v")	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S57	410	(IEEE near5 ("802.11v" or "802.11 v"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S58	410	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S59	1240	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:40
S60	85	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) with roam$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:40
S61	13	S60 roam$4 near7 instruct$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:40
S62	4	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) with roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:04
S63	48	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) and roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:04

S64	616	delay$4 and roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:07
S65	20	delay$4 same roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:07
S66	644	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (complet$4 or finish$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:13
S67	644	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (complet$4 or finish$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:13
S68	131	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (exist$4 or current$4 or active) near5 (data or packet or traffic)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:15
S69	2	12/820988 (monitor$4 same (error or rate or bandwidth or throughput))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:20

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S5	22	(mesh$4 near3 point near5 client$4).clm.	US-PGPUB; USPAT	AND	ON	2018/03/12 21:56
S6	27	(measur$6 near5 qualitative near4 parameter).clm.	US-PGPUB; USPAT	AND	ON	2018/03/12 22:00
S7	1	S5 S6	US-PGPUB; USPAT	AND	ON	2018/03/12 22:00
S8	1	15/287706	US-PGPUB; USPAT	AND	ON	2018/03/12 22:02

3/14/2018 3:23:14 PM
C:\Users\kyuen\Documents\EAST\Workspaces\15287706.wsp

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BIB DATA SHEET

CONFIRMATION NO. 8691

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
15/287,706	10/06/2016 **RULE**	370	2464	110729-8052.US01

APPLICANTS
NETGEAR, INC., San Jose, CA

INVENTORS
Peiman Amini, Mountain View, CA;
Joseph Amalan Arul Emmanuel, Cupertino, CA;

**** CONTINUING DATA ****************************
This appln claims benefit of 62/253,540 11/10/2015
and claims benefit of 62/336,503 05/13/2016

**** FOREIGN APPLICATIONS ****************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****
10/18/2016

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /KAN YUEN/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		CA	61	20	1

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TITLE
ROAMING IN A WIRELESS MESH NETWORK

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Application	Document	Mailroom Date	Attorney Docket No.
15287706	CTNF	04/12/2018	110729-8052.US01
	892	04/12/2018	110729-8052.US01

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Attorney Docket No.: 110729-8052.US01 Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application for:	
AMINI et al.	Examiner: Yuen, Kan
Application No.: 15/287,706	Group Art Unit: 2464
Filing Date: October 06, 2016	Confirmation No.: 8691
For: ROAMING IN A WIRELESS MESH NETWORK	

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NON-FINAL OFFICE ACTION UNDER 37 C.F.R. § 1.111

Dear Sir/Madam:

In response to the Office Action dated April 12, 2018, (hereinafter "the Office Action"), please enter the following amendments and reconsider the application in view of the remarks below.

Amendments to the Specification begin on page 2 of this paper

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 9 of this paper.

IN THE SPECIFICATION:

Please amend the paragraph [0003] of the specification as originally filed as indicated below:

[0003] This application is related to co-pending U.S. Patent Application No. ~~-~~15/287,678~~-/___,___~~, entitled "AUTOMATED MESH POINT SURVEY AND GUIDED INSTALLATION FOR A WIRELESS MESH NETWORK" (Attorney Docket No. 110729-8050.US01), filed ~~___~~October 6, 2016; U.S. Patent Application No. 15/287,704~~-/___,___~~, entitled "RATE ESTIMATION IN A WIRELESS MESH NETWORK" (Attorney Docket No. 110729-8051.US01), filed ~~___~~October 6, 2016; U.S. Patent Application No. 15/287,711~~-/___,___~~, entitled "DEDICATED BACKHAUL LINK FOR A ROBUST WIRELESS MESH NETWORK" (Attorney Docket No. 110729-8053.US01), filed ~~___~~October 6, 2016; and U.S. Patent Application No. 15/271,912~~-/___,___~~, entitled "DEDICATED BACKHAUL FOR WHOLE HOME COVERAGE" (Attorney Docket No. 110729-8058.US01), filed ~~___~~September 21, 2016; all of which are hereby incorporated by reference in their entireties.

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently Amended) A computer-implemented method for roaming implementation in a wireless mesh network formed with one or more mesh points, the method comprising:

causing a wireless link to be established between a first mesh point and a client;

without requiring that the established wireless link to be corrupted or lost, causing a second mesh point to measure a plurality of qualitative parameters indicative of a quality of a potential link between the second mesh point and the client;

causing the plurality of qualitative parameters indicative of the quality of the potential link to be transmitted to a controlling entity of the wireless mesh network;

comparing, by the controlling entity, the quality of the potential link between the second mesh point and the client against a quality of the established wireless link between the first mesh point and the client; ~~and~~

upon determining that the quality of the potential link exceeds the quality of the established wireless link by a select level, causing the controlling entity to issue one or more instructions resulting in the client roaming from the first mesh point to the second mesh point~~.~~; and

determining whether the client supports intelligent roaming;

wherein, when the client does not support intelligent roaming, the one or more instructions include a deauthentication or a disassociation frame, with a reason code reflecting a roaming decision by the controlling entity.

2. (Original) The method of claim 1, wherein each mesh point in the wireless mesh network is capable of acting as the controlling entity.

3. (Original) The method of claim 1, wherein a mesh point in the wireless mesh network is designated as the controlling entity.

4. (Original) The method of claim 1, wherein the controlling entity is the first mesh point.

5. (Original) The method of claim 1, wherein the controlling entity is a server remote from the wireless mesh network.

6. (Original) The method of claim 1, further comprising:

routing the one or more instructions to the first and second mesh points.

7. (Original) The method of claim 1, further comprising:

causing the first mesh point to measure the plurality of qualitative parameters indicative of the quality of the established wireless link between the first mesh point and the client; and

causing the plurality of qualitative parameters to be transmitted to the controlling entity of the wireless mesh network.

8. (Original) The method of claim 1, further comprising:

constructing a list of roaming candidates, each roaming candidate having a score indicative of an estimated quality of a potential link between the client and a corresponding roaming candidate.

9. (Original) The method of claim 8, wherein the controlling entity is configured to select a roaming candidate with the highest score on the list of roaming candidates as the second mesh point.

10. (Original) The method of claim 1, wherein one or more of the plurality of qualitative parameters are averaged over a select amount of packets.

11. (Original) The method of claim 1, further comprising:

adjusting the plurality of qualitative parameters based on a modulation and coding scheme used in the established wireless link.

12. (Original) The method of claim 1, further comprising:

establishing a profile containing, for a select number of clients, a roaming capability and a roaming behavior of each client; and

selecting, for each client, the one or more instructions based on a profile of a corresponding client.

13. (Original) The method of claim 12, wherein the profiled is established based on one or more unique identifiers of the client.

14. (Canceled)

15. (Original) The method of claim 1, further comprising:

determining whether the client supports intelligent roaming;

wherein, when the client supports intelligent roaming, the one or more instructions include a roaming directive and an identifier of the second mesh point.

16. (Original) The method of claim 1, wherein the one or more instructions are IEEE 802.11v, IEEE 802.11k and/or IEEE 802.11r compliant instructions.

17. (Original) The method of claim 1, further comprising:

delaying issuance of the one or more instructions if the client has active data traffic and/or if a quality of service (QoS) option is active.

18. (Original) The method of claim 17, wherein the QoS option requires a minimum service level for a type of the active data traffic.

19. (Original) The method of claim 1, wherein the one or more instructions include: roaming the client to another mesh point, roaming the client to another frequency band, roaming the client to another channel, or a combination thereof.

20. (Original) The method of claim 1, wherein the plurality of qualitative parameters include, in addition to an received signal strength indicator (RSSI) value: a potential or current transmission data rate, a potential or current packet aggregate size, a potential or current packet error rate (PER), a potential or current retry count, a potential or current available airtime, and/or a potential or current delay on the link.

21. (New) A computer-implemented method for roaming implementation in a wireless mesh network formed with one or more mesh points, the method comprising:

causing a wireless link to be established between a first mesh point and a client;

without requiring that the established wireless link to be corrupted or lost, causing a second mesh point to measure a plurality of qualitative parameters indicative of a quality of a potential link between the second mesh point and the client;

causing the plurality of qualitative parameters indicative of the quality of the potential link to be transmitted to a controlling entity of the wireless mesh network;

comparing, by the controlling entity, the quality of the potential link between the second mesh point and the client against a quality of the established wireless link between the first mesh point and the client;

upon determining that the quality of the potential link exceeds the quality of the established wireless link by a select level, causing the controlling entity to issue one or more instructions resulting in the client roaming from the first mesh point to the second mesh point; and

determining whether the client supports intelligent roaming;

wherein, when the client supports intelligent roaming, the one or more instructions include a roaming directive and an identifier of the second mesh point.

22. (New) The method of claim 21, wherein each mesh point in the wireless mesh network is capable of acting as the controlling entity.

23. (New) The method of claim 21, wherein a mesh point in the wireless mesh network is designated as the controlling entity.

24. (New) The method of claim 21, wherein the controlling entity is the first mesh point.

25. (New) The method of claim 21, wherein the controlling entity is a server remote from the wireless mesh network.

26. (New) The method of claim 21, further comprising:

routing the one or more instructions to the first and second mesh points.

27. (New) The method of claim 21, further comprising:

causing the first mesh point to measure the plurality of qualitative parameters indicative of the quality of the established wireless link between the first mesh point and the client; and

causing the plurality of qualitative parameters to be transmitted to the controlling entity of the wireless mesh network.

28. (New) The method of claim 21, further comprising:

constructing a list of roaming candidates, each roaming candidate having a score indicative of an estimated quality of a potential link between the client and a corresponding roaming candidate.

29. (New) The method of claim 28, wherein the controlling entity is configured to select a roaming candidate with the highest score on the list of roaming candidates as the second mesh point.

30. (New) The method of claim 21, wherein one or more of the plurality of qualitative parameters are averaged over a select amount of packets.

31. (New) The method of claim 21, further comprising:

adjusting the plurality of qualitative parameters based on a modulation and coding scheme used in the established wireless link.

32. (New) The method of claim 21, further comprising:

establishing a profile containing, for a select number of clients, a roaming capability and a roaming behavior of each client; and

selecting, for each client, the one or more instructions based on a profile of a corresponding client.

33. (New) The method of claim 32, wherein the profiled is established based on one or more unique identifiers of the client.

34. (New) The method of claim 21, wherein the one or more instructions are IEEE 802.11v, IEEE 802.11k and/or IEEE 802.11r compliant instructions.

35. (New) The method of claim 21, further comprising:

delaying issuance of the one or more instructions if the client has active data traffic and/or if a quality of service (QoS) option is active.

36. (New) The method of claim 35, wherein the QoS option requires a minimum service level for a type of the active data traffic.

37. (New) The method of claim 1, wherein the one or more instructions include: roaming the client to another mesh point, roaming the client to another frequency band, roaming the client to another channel, or a combination thereof.

38. (New) The method of claim 1, wherein the plurality of qualitative parameters include, in addition to an received signal strength indicator (RSSI) value: a potential or current transmission data rate, a potential or current packet aggregate size, a potential or current packet error rate (PER), a potential or current retry count, a potential or current available airtime, and/or a potential or current delay on the link.

REMARKS

Summary of Response

Claims 1-20 were pending at the issuance of the Office Action. Claim 1 has been amended in this response. Claim 14 has been canceled. Claims 21-38 have been added in light of the amendments. Support for the amendments and the newly added claims can be found throughout the specification as originally filed, including the original claims as filed. No new matter has been added. After this response, claims 1-13 and 15-38 remain pending in the application.

Reconsideration of the present application is respectfully requested.

Detailed Discussion

Allowable Subject Matter

Claims 14 and 15 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant thanks the Examiner for the allowable subject matter.

For the sole purpose of expediting prosecution, and without conceding to the reasons regarding allowability or other positions taken by the Examiner in the Office Action, Applicant has:

- amended independent claim 1 to include the readily allowable subject matter in claim 14;
- added independent claim 21 to include the readily allowable subject matter in 15; and
- added dependent claims 22-38 for independent claim 21.

In light of the amendment, claim 14 has been canceled.

Applicant submits that all pending claims now contain readily allowable subject matter.

Rejections under 35 U.S.C. §§ 101, 102, and 103

Applicant respectfully disagrees with these assertions; however, for the sole purpose of expediting prosecution, Applicant has amended the application to place the

claims in readily allowable condition. As such, the grounds for the rejections under this section are no longer applicable. Applicant requests withdrawal of the rejections.

Dependent Claims

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicant's silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

Reservation of Rights

For the sake of conciseness and clarity, Applicant may not have addressed every assertion or rejection made in the Office Action, particularly where Applicant has presented amendments or arguments that Applicant believes render such assertions/rejections moot. Therefore, Applicant's silence regarding any such assertions or rejections does not constitute an admission or acquiescence regarding such assertions/rejections or a waiver of any argument relating to such assertions/rejections. Applicant reserves the right to challenge at a later time any rejection or any factual or legal assertion made by the Office in relation to the present application. Applicant does not admit that any of the references cited in the Office Action are prior art. Applicant reserves the right to swear behind any cited reference at a later date, to the extent permitted by law.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this

or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Authorization for Email Communications

Recognizing that Internet communications are not secure, Applicant hereby authorizes the USPTO to communicate with Applicant's attorney concerning any subject matter of this application by electronic mail. See M.P.E.P. § 502.03. Applicant understands that a copy of these communications may be made of record in the application file.

CONCLUSION

For the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly requested.

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, the Examiner is cordially invited to telephone the undersigned attorney at (650) 838-4303 to arrange for such a conference.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 110729-8052.US01) from which the undersigned is authorized to draw.

Respectfully submitted,

Dated: 6/14/2018

By /Han-Wei Chen/

Han-Wei Chen
Registration No.: 75,350

PERKINS COIE LLP
P.O. Box 1247
Seattle, Washington 98111-1247
(650) 838-4303
(650) 838-4350 (Fax)
Attorney for Applicant

Electronic Patent Application Fee Transmittal

Application Number:	15287706
Filing Date:	06-Oct-2016
Title of Invention:	ROAMING IN A WIRELESS MESH NETWORK
First Named Inventor/Applicant Name:	Peiman Amini
Filer:	Han-Wei Chen/Christine Ortt
Attorney Docket Number:	110729-8052.US01

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	17	100	1700
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	1700

Electronic Acknowledgement Receipt

EFS ID:	32996932
Application Number:	15287706
International Application Number:	
Confirmation Number:	8691
Title of Invention:	ROAMING IN A WIRELESS MESH NETWORK
First Named Inventor/Applicant Name:	Peiman Amini
Customer Number:	22918
Filer:	Han-Wei Chen/Christine Ortt
Filer Authorized By:	Han-Wei Chen
Attorney Docket Number:	110729-8052.US01
Receipt Date:	25-JUN-2018
Filing Date:	06-OCT-2016
Time Stamp:	17:24:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1700
RAM confirmation Number	062618INTEFSW17251300
Deposit Account	500665
Authorized User	Christine Ortt

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		110729-8052US01_Response_2018-06-25.pdf	120860 939868b1337e27e168ae0df730bfab72976ae663	yes	11

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	8
Applicant Arguments/Remarks Made in an Amendment	9	11

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30081 ea985ec7277d7a550ec613079f183f69eb5fcafb	no	2

Warnings:

Information:

Total Files Size (in bytes):	150941

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15287706
Filing Date	2016-10-06
First Named Inventor	Peiman Amini
Art Unit	2464
Examiner Name	Kan Yuen
Attorney Docket Number	110729-8052.US01

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7155167	B1	2006-12-26	CARTY	
	2	7502354	B1	2009-03-10	MAUFER	
	3	7567822	B2	2009-07-28	HART, et al.	
	4	8248948	B2	2012-08-21	WEIL, et al.	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20020042274	A1	2002-04-11	ADES	
	2	20070206528	A1	2007-09-06	WALTON, et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15287706
	Filing Date	2016-10-06
	First Named Inventor	Peiman Amini
	Art Unit	2464
	Examiner Name	Kan Yuen
	Attorney Docket Number	110729-8052.US01

	3	20090067369	A1	2009-03-12	STAMOULIS, et al.	
	4	20090135738	A1	2009-05-28	MHATRE, et al.	
	5	20100157888	A1	2010-06-24	AGGARWAL, et al.	
	6	20100231473	A1	2010-09-16	SHTROM, et al.	
	7	20100291931	A1	2010-11-18	SUEMITSU, et al.	
	8	20110250926	A1	2011-10-13	WIETFELDT, et al.	
	9	20120129517	A1	2012-05-24	FOX, et al.	
	10	20140254400	A1	2014-09-11	ZHOU, et al.	
	11	20150103685	A1	2015-04-16	BUTCHKO, et al.	
	12	20150215791	A1	2015-07-30	GELLER, et al.	
	13	20160029384	A1	2016-01-28	SIDHU, et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15287706
	Filing Date	2016-10-06
	First Named Inventor	Peiman Amini
	Art Unit	2464
	Examiner Name	Kan Yuen
	Attorney Docket Number	110729-8052.US01

	14	20160066249	A1	2016-03-03	DUKES, et al.	
	15	20160094946	A1	2016-03-31	KEITHLEY	
	16	20160227544	A1	2016-08-04	KATAR, et al.	
	17	20160269097	A1	2016-09-15	ISLAM, et al.	
	18	20160308755	A1	2016-10-20	GARG	
	19	20170006431	A1	2017-01-05	DONOVAN, et al.	
	20	20170118705	A1	2017-04-27	TRAN, et al.	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15287706
	Filing Date	2016-10-06
	First Named Inventor	Peiman Amini
	Art Unit	2464
	Examiner Name	Kan Yuen
	Attorney Docket Number	110729-8052.US01

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15287706
	Filing Date	2016-10-06
	First Named Inventor	Peiman Amini
	Art Unit	2464
	Examiner Name	Kan Yuen
	Attorney Docket Number	110729-8052.US01

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

✓ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

✓ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Han-Wei Chen/	Date (YYYY-MM-DD)	2018-06-25
Name/Print	Han-Wei (Harvey) Chen	Registration Number	75350

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	15287706
Filing Date:	06-Oct-2016
Title of Invention:	ROAMING IN A WIRELESS MESH NETWORK
First Named Inventor/Applicant Name:	Peiman Amini
Filer:	Han-Wei Chen/Christine Ortt
Attorney Docket Number:	110729-8052.US01

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt

EFS ID:	32997651
Application Number:	15287706
International Application Number:	
Confirmation Number:	8691
Title of Invention:	ROAMING IN A WIRELESS MESH NETWORK
First Named Inventor/Applicant Name:	Peiman Amini
Customer Number:	22918
Filer:	Han-Wei Chen/Christine Ortt
Filer Authorized By:	Han-Wei Chen
Attorney Docket Number:	110729-8052.US01
Receipt Date:	25-JUN-2018
Filing Date:	06-OCT-2016
Time Stamp:	18:04:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$240
RAM confirmation Number	062618INTEFSW18051500
Deposit Account	500665
Authorized User	Christine Ortt

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	2018-06-25_IDS_110729-8052US01.pdf	1039281 3d7cdf614c34e389187ef764b8bb80a1c638a59d	no	6
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30382 c31dd051eb292a4d72de5696f1b2ec ce90	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1069663		

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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NOTICE OF ALLOWANCE AND FEE(S) DUE

22918 7590 08/31/2018
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER
YUEN, KAN

ART UNIT	PAPER NUMBER
2464	

DATE MAILED: 08/31/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/287,706	10/06/2016	Peiman Amini	110729-8052.US01	8691

TITLE OF INVENTION: ROAMING IN A WIRELESS MESH NETWORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	11/30/2018

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22918 7590 08/31/2018
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WA 98111-1247

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/287,706	10/06/2016	Peiman Amini	110729-8052.US01	8691

TITLE OF INVENTION: ROAMING IN A WIRELESS MESH NETWORK

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	11/30/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
YUEN, KAN	2464	370-332000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

TP Link Ex. 1004
Page 193

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/287,706	10/06/2016	Peiman Amini	110729-8052.US01	8691

22918 7590 08/31/2018
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER
YUEN, KAN

ART UNIT	PAPER NUMBER
2464	

DATE MAILED: 08/31/2018

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 15/287,706	Applicant(s) Amini et al.	
	Examiner KAN YUEN	Art Unit 2464	AIA Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 6/25/2018.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are See Continuation Sheet . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____.
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file areply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/KAN YUEN/
Primary Examiner, Art Unit 2464

Continuation of 3. The allowed claim(s) is/are: 1-13, 15-38 (Renumbered 1-37 Respectively)

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Allowable Subject Matter

1. Claims 1-13, 15-38 are allowed. The prior art of record fails to disclose the features for determining whether the client supports intelligent roaming: wherein, when the client does not support intelligent roaming, the one or more instructions include a deauthentication or a disassociation frame, with a reason code reflecting a roaming decision by the controlling entity, as recited in claim 1.

2. The prior art of record fails to disclose the features for determining whether the client supports intelligent roaming; wherein, when the client supports intelligent roaming, the one or more instructions include a roaming directive and an identifier of the second mesh point, as recited in claim 21.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAN YUEN whose telephone number is (571)270-1413. The examiner can normally be reached on Monday - Friday 11pm-7pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KAN YUEN/
Primary Examiner, Art Unit 2464

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/287,706	Amini et al.
	Examiner	**Art Unit**
	KAN YUEN	2464

CPC - Searched*		
Symbol	**Date**	**Examiner**
H04L12/44 ; H04L43/0888 ; H04L43/0894 ; H04L43/10 ; H04L43/16 ; H04L45/20 ; H04W24/04 ; H04W24/06 ; H04W24/08 ; H04W36/30 ; H04W36/36 ; H04W40/12 ; H04W4/023 ; H04W72/0453 ; H04W72/085 ; H04W76/10 ; H04W76/15 ; H04W84/12 ; H04W84/18	08/24/2018	KY

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
EAST SEARCH; MANUAL SEARCH H04L12/44	08/24/2018	KY
INVENTORSHIP SEARCH	08/24/2018	KY

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
	INTERFERENCE SEARCH PRINTOUT (SEE SEARCH PRINTOUT)	08/24/2018	KY

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/287,706	Amini et al.
	Examiner	**Art Unit**
	KAN YUEN	2464

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/24/2018								
1	1	=								
2	2	=								
3	3	=								
4	4	=								
5	5	=								
6	6	=								
7	7	=								
8	8	=								
9	9	=								
10	10	=								
11	11	=								
12	12	=								
13	13	=								
	14	-								
14	15	=								
15	16	=								
16	17	=								
17	18	=								
18	19	=								
19	20	=								
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29	28	=								
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32	31	=								
33	32	=								
34	33	=								
35	34	=								
36	35	=								
37	36	=								
20	37	=								
21	38	=								

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/287,706	Amini et al.
	Examiner	**Art Unit**
	KAN YUEN	2464

CPC

Symbol					Type	Version
H04W	/	72	/	0453	F	2013-01-01
H04L	/	12	/	44	I	2013-01-01
H04L	/	43	/	16	I	2013-01-01
H04L	/	45	/	20	I	2013-01-01
H04W	/	4	/	023	I	2013-01-01
H04W	/	24	/	08	I	2013-01-01
H04W	/	36	/	30	I	2013-01-01
H04W	/	36	/	36	I	2013-01-01
H04L	/	43	/	0888	I	2013-01-01
H04L	/	43	/	0894	I	2013-01-01
H04L	/	43	/	10	I	2013-01-01
H04W	/	24	/	06	I	2013-01-01
H04W	/	40	/	12	I	2013-01-01
H04W	/	76	/	15	I	2018-02-01
H04W	/	84	/	18	A	2013-01-01
H04W	/	84	/	12	A	2013-01-01
H04W	/	24	/	04	A	2013-01-01
H04W	/	72	/	085	A	2013-01-01
H04W	/	76	/	10	A	2018-02-01

CPC Combination Sets

Symbol					Type	Set	Ranking	Version
	/		/					

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 37	
/KAN YUEN/ Primary Examiner, Art Unit 2464 (Primary Examiner)	24 August 2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 21

U.S. Patent and Trademark Office

Part of Paper No.: 20180824

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/287,706	Amini et al.
	Examiner	**Art Unit**
	KAN YUEN	2464

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H04W	/	72	/	04

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 37	
/KAN YUEN/ Primary Examiner, Art Unit 2464 (Primary Examiner)	24 August 2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 21

U.S. Patent and Trademark Office

Part of Paper No.: 20180824

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/287,706	Amini et al.
	Examiner	**Art Unit**
	KAN YUEN	2464

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	10	18	19	29	28	20	37						
2	2	11	11	19	20	30	29	21	38						
3	3	12	12	22	21	31	30								
4	4	13	13	23	22	32	31								
5	5		14	24	23	33	32								
6	6	14	15	25	24	34	33								
7	7	15	16	26	25	35	34								
8	8	16	17	27	26	36	35								
9	9	17	18	28	27	37	36								

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 37	
/KAN YUEN/ Primary Examiner, Art Unit 2464 (Primary Examiner)	24 August 2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 21

U.S. Patent and Trademark Office

Part of Paper No.: 20180824

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15287706
Filing Date	2016-10-06
First Named Inventor	Peiman Amini
Art Unit	2464
Examiner Name	Kan Yuen
Attorney Docket Number	110729-8052.US01

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7155167	B1	2006-12-26	CARTY	
	2	7502354	B1	2009-03-10	MAUFER	
	3	7567822	B2	2009-07-28	HART, et al.	
	4	8248948	B2	2012-08-21	WEIL, et al.	

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U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20020042274	A1	2002-04-11	ADES	
	2	20070206528	A1	2007-09-06	WALTON, et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /K.Y/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15287706
Filing Date	2016-10-06
First Named Inventor	Peiman Amini
Art Unit	2464
Examiner Name	Kan Yuen
Attorney Docket Number	110729-8052.US01

	3	20090067369	A1	2009-03-12	STAMOULIS, et al.	
	4	20090135738	A1	2009-05-28	MHATRE, et al.	
	5	20100157888	A1	2010-06-24	AGGARWAL, et al.	
	6	20100231473	A1	2010-09-16	SHTROM, et al.	
	7	20100291931	A1	2010-11-18	SUEMITSU, et al.	
	8	20110250926	A1	2011-10-13	WIETFELDT, et al.	
	9	20120129517	A1	2012-05-24	FOX, et al.	
	10	20140254400	A1	2014-09-11	ZHOU, et al.	
	11	20150103685	A1	2015-04-16	BUTCHKO, et al.	
	12	20150215791	A1	2015-07-30	GELLER, et al.	
	13	20160029384	A1	2016-01-28	SIDHU, et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /K.Y/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15287706
	Filing Date	2016-10-06
	First Named Inventor	Peiman Amini
	Art Unit	2464
	Examiner Name	Kan Yuen
	Attorney Docket Number	110729-8052.US01

	14	20160066249	A1	2016-03-03	DUKES, et al.	
	15	20160094946	A1	2016-03-31	KEITHLEY	
	16	20160227544	A1	2016-08-04	KATAR, et al.	
	17	20160269097	A1	2016-09-15	ISLAM, et al.	
	18	20160308755	A1	2016-10-20	GARG	
	19	20170006431	A1	2017-01-05	DONOVAN, et al.	
	20	20170118705	A1	2017-04-27	TRAN, et al.	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15287706
Filing Date	2016-10-06
First Named Inventor	Peiman Amini
Art Unit	2464
Examiner Name	Kan Yuen
Attorney Docket Number	110729-8052.US01

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		

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EXAMINER SIGNATURE

Examiner Signature	/KAN YUEN/	Date Considered	08/24/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /K.Y/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15287706
Filing Date	2016-10-06
First Named Inventor	Peiman Amini
Art Unit	2464
Examiner Name	Kan Yuen
Attorney Docket Number	110729-8052.US01

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

✓ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

✓ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Han-Wei Chen/	Date (YYYY-MM-DD)	2018-06-25
Name/Print	Han-Wei (Harvey) Chen	Registration Number	75350

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /K.Y/

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S3	133379	((H04L12/44 OR H04L43/0888 OR H04L43/0894 OR H04L43/10 OR H04L43/16 OR H04L45/20 OR H04W24/04 OR H04W24/06 OR H04W24/08 OR H04W36/30 OR H04W36/36 OR H04W40/12 OR H04W4/023 OR H04W72/0453 OR H04W72/085 OR H04W76/10 OR H04W76/15 OR H04W84/12 OR H04W84/18).CPC.)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/12 22:03
S4	1	15/287706 (qualitative near3 parameter)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/12 22:04
S9	2795	(roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (exceed$4 or below or above or under or low$4 or high$4) near6 (threshold$4 or predefin$4 or predetermin$4 or preset$4 or pre-defin$4 or pre-determin$4 or pre-set$4 or limit)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:31
S10	7212	(parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (monitor$4 or measur$4 or measurement or determin$4 or detect$4) with mesh$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:34
S11	19	S9 S10	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:34
S12	19	S9 S10	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 12:34
S13	1	15/287706 (monitor$4 or measur$6) with (quality or strength)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 15:48

S14	2	12/820988 (monitor$4 or measur$6) with (quality or strength)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 15:59
S15	2	12/820988 (reconfigur$6 with uplink)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:12
S16	2	12/820988 (termina$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:13
S17	81825	(notif$4 or notification or configuration or reconfigur$4) with (terminat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:32
S18	2976	(notif$4 or notification or configuration or reconfigur$4) with instruct$4 with (terminat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:36
S19	2883	(notif$4 or notification or configuration or reconfigur$4) with instruct$4 with (establish$4 or setup or initiat$4) with (connection or channel or link or (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:37
S20	135	S18 S19	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:38
S21	135	S18 S19	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:38
S22	268	(configuration or reconfigur$4) near7 instruct$4 with (notif$4 or notification or report$4) with (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:48
S23	268	(configuration or reconfigur$4) near7 instruct$4 with (notif$4 or notification or report$4) with (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:48

S24	2	(configuration or reconfigur$4) near7 instruct$4 with (establish$4 or setup or initiat$4) with roam$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 17:51
S25	2	12/820988 (monitor$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 18:06
S26	1342	(calculat$4) with (averag$4) with (snr)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S27	225	(path) with (averag$4) with (snr)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S28	37	S26 S27	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S29	37	S26 S27	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 19:39
S30	1	15/287706 (modulat$4 near3 scheme)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:01
S31	1	15/287706 ((modulat$4 near3 scheme) or mcs)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:02
S32	5970	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength)))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:11
S33	1394	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength))) with (increas$4 or decreas$4 or reduc$4 or adjust$4 or chang$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:12

S34	1394	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength))) with (increas$4 or decreas$4 or reduc$4 or adjust$4 or chang$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:13
S35	226	(profile) with (roam$4 near8 capabilit$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:41
S36	3410	(profile) with (roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:46
S37	1	15/287706 (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:47
S38	13	(roam$4 near5 capabilit$4) same (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:48
S39	13	(roam$4 near5 capabilit$4) same (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:48
S40	1	15/287706 (roam$4 near4 behavior) and (roam$4 near3 capabilit$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:49
S41	56	profil$4 with (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:51
S42	56	profil$4 with (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:51
S43	1	15/287706 (intelligent near4 roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:57

S44	406	(intelligent near4 roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 20:58
S45	4	(intelligent near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:01
S46	4	(intelligent near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:01
S47	5	((intelligen$6 or smart) near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:06
S48	10	((intelligen$6 or smart) near6 roam$4) same (identif$4 or identification or id or address or unique) near9 (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:08
S49	1	15/287706 (intelligent near4 roam$4) same mesh	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:12
S50	180	((intelligen$6 or smart) near6 roam$4) same (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:12
S51	1	15/287706 (roam$4 near4 direct$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:13
S52	1	15/287706 (intelligent near4 roam$4) same instruction	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:14
S53	46	(delay$4 or postpon$4) near9 (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (uplink or upstream) near6 (data or packet)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:17

S54	46	(delay$4 or postpon$4) near9 (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (uplink or upstream) near6 (data or packet)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:18
S55	0	(roam$4 near9 instruct$4) with (IEEE near5 "802.11v")	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S56	397	(IEEE near5 "802.11v")	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S57	410	(IEEE near5 ("802.11v" or "802.11 v"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S58	410	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:38
S59	1240	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:40
S60	85	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) with roam$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:40
S61	13	S60 roam$4 near7 instruct$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 21:40
S62	4	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) with roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:04
S63	48	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) and roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:04

S64	616	delay$4 and roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:07
S65	20	delay$4 same roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:07
S66	644	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (complet$4 or finish$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:13
S67	644	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (complet$4 or finish$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:13
S68	131	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (exist$4 or current$4 or active) near5 (data or packet or traffic)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:15
S69	2	12/820988 (monitor$4 same (error or rate or bandwidth or throughput))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/03/13 22:20
S70	150022	((H04L12/44 OR H04L43/0888 OR H04L43/0894 OR H04L43/10 OR H04L43/16 OR H04L45/20 OR H04W24/04 OR H04W24/06 OR H04W24/08 OR H04W36/30 OR H04W36/36 OR H04W40/12 OR H04W4/023 OR H04W72/0453 OR H04W72/085 OR H04W76/10 OR H04W76/15 OR H04W84/12 OR H04W84/18).CPC.)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:46
S71	1	15/287706 (qualitative near3 parameter)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:46
S72	2907	(roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (exceed$4 or below or above or under or low$4 or high$4) near6 (threshold$4 or predefin$4 or predetermin$4 or	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:46

		preset$4 or pre-defin$4 or pre-determin$4 or pre-set$4 or limit)				
S73	7600	(parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (monitor$4 or measur$4 or measurement or determin$4 or detect$4) with mesh$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:46
S74	19	S72 S73	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:46
S75	19	S72 S73	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S76	2	15/287706 (monitor$4 or measur$6) with (quality or strength)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S77	2	12/820988 (monitor$4 or measur$6) with (quality or strength)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S78	2	12/820988 (reconfigur$6 with uplink)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S79	2	12/820988 (termina$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S80	84118	(notif$4 or notification or configuration or reconfigur$4) with (terminat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S81	3091	(notif$4 or notification or configuration or reconfigur$4) with instruct$4 with (terminat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S82	3096	(notif$4 or notification or configuration or reconfigur$4) with instruct$4 with (establish$4 or setup or initiat$4) with (connection or channel or link or	US-PGPUB; USPAT; USOCR;	AND	ON	2018/08/23 21:47

		(roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)))	EPO; DERWENT			
S83	145	S81 S82	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S84	145	S81 S82	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S85	304	(configuration or reconfigur$4) near7 instruct$4 with (notif$4 or notification or report$4) with (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S86	304	(configuration or reconfigur$4) near7 instruct$4 with (notif$4 or notification or report$4) with (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S87	2	(configuration or reconfigur$4) near7 instruct$4 with (establish$4 or setup or initiat$4) with roam$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S88	2	12/820988 (monitor$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S89	1386	(calculat$4) with (averag$4) with (snr)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S90	229	(path) with (averag$4) with (snr)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S91	37	S89 S90	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S92	37	S89 S90	US-PGPUB; USPAT;	AND	ON	2018/08/23 21:47

			USOCR; EPO; DERWENT			
S93	2	15/287706 (modulat$4 near3 scheme)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S94	2	15/287706 ((modulat$4 near3 scheme) or mcs)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S95	6481	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength)))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S96	1642	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength))) with (increas$4 or decreas$4 or reduc$4 or adjust$4 or chang$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S97	1642	((modulat$4 near3 scheme) or mcs) with (snr or (signal near2 (quality or strength))) with (increas$4 or decreas$4 or reduc$4 or adjust$4 or chang$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S98	227	(profile) with (roam$4 near8 capabilit$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S99	3548	(profile) with (roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S100	2	15/287706 (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S101	14	(roam$4 near5 capabilit$4) same (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S102	14	(roam$4 near5 capabilit$4) same (roam$4 near4 behavior)	US-PGPUB; USPAT;	AND	ON	2018/08/23 21:47

			USOCR; EPO; DERWENT			
S103	1	15/287706 (roam$4 near4 behavior) and (roam$4 near3 capabilit$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S104	59	profil$4 with (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S105	59	profil$4 with (roam$4 near4 behavior)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S106	1	15/287706 (intelligent near4 roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S107	409	(intelligent near4 roam$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S108	4	(intelligent near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S109	4	(intelligent near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S110	5	((intelligen$6 or smart) near6 roam$4) same (deauthenticat$4 or de-authenticat$4 or disassociat$4 or dis-associat$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S111	10	((intelligen$6 or smart) near6 roam$4) same (identif$4 or identification or id or address or unique) near9 (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S112	1	15/287706 (intelligent near4 roam$4) same mesh	US-PGPUB;	AND	ON	2018/08/23 21:47

			USPAT; USOCR; EPO; DERWENT			
S113	188	((intelligen$6 or smart) near6 roam$4) same (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S114	1	15/287706 (roam$4 near4 direct$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S115	1	15/287706 (intelligent near4 roam$4) same instruction	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S116	47	(delay$4 or postpon$4) near9 (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (uplink or upstream) near6 (data or packet)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S117	47	(delay$4 or postpon$4) near9 (roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (uplink or upstream) near6 (data or packet)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S118	0	(roam$4 near9 instruct$4) with (IEEE near5 "802.11v")	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S119	434	(IEEE near5 "802.11v")	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S120	449	(IEEE near5 ("802.11v" or "802.11 v"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S121	449	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v"))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S122	1318	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k"	US-PGPUB;	AND	ON	2018/08/23 21:47

		or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r"))	USPAT; USOCR; EPO; DERWENT			
S123	95	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) with roam$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S124	13	S123 roam$4 near7 instruct$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S125	4	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) with roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S126	51	(IEEE near5 ("802.11v" or "802.11 v" or "802.11_v" or "802.11k" or "802.11 k" or "802.11_k" or "IEEE 802.11 r" or "IEEE 802.11_r" or "IEEE 802.11r")) and roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S127	676	delay$4 and roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S128	21	delay$4 same roam$4 near7 (instruct$4 or command$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S129	661	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (complet$4 or finish$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S130	661	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (complet$4 or finish$4)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S131	136	((roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over))) with (delay$4 or postpon$4) with (exist$4 or current$4 or active) near5 (data or packet or traffic)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/23 21:47
S132	2	12/820988 (monitor$4 same (error or rate or bandwidth or throughput))	US-PGPUB;	AND	ON	2018/08/23 21:47

			USPAT; USOCR; EPO; DERWENT			
S140	69	("20070280453" | "20090067369" | "20100157888" | "20100291931" | "20160029384" | "20100260146" | "20160094946" | "7567822" | "20020042274" | "20090135738" | "20090135794" | "20160066249" | "20170118705" | "20120224484" | "20120225646" | "20100231473" | "20150215791" | "20160227544" | "20160269097" | "20170006431" | "7155167" | "7502354" | "20150092681" | "20070206528" | "20110250926" | "20120129517" | "20150103685" | "20160308755" | "8248948" | "20090221238" | "20140254400").PN.	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/24 12:12
S141	2907	(roam$4 or handoff or handover or hand-off or hand-over or (hand$3-over)) with (parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (exceed$4 or below or above or under or low$4 or high$4) near6 (threshold$4 or predefin$4 or predetermin$4 or preset$4 or pre-defin$4 or pre-determin$4 or pre-set$4 or limit)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/24 12:13
S142	7600	(parameter or metric or quality or qos or bandwidth or throughput or rate or bitrate or latency or delay$4 or jitter$4) with (monitor$4 or measur$4 or measurement or determin$4 or detect$4) with mesh$4	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/24 12:13
S143	19	S141 S142	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/24 12:13
S144	2	S140 S143	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/24 12:14
S145	1	((intelligen$6 or smart) near6 roam$4) same (bs or (base adj2 station) or ap or (access adj2 point) or repeater or (node adj b) or bts or node$1b or node-b or enb or node$1b) S140	US-PGPUB; USPAT; USOCR; EPO; DERWENT	AND	ON	2018/08/24 12:16

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S5	22	(mesh$4 near3 point near5	US-PGPUB;	AND	ON	2018/03/12

		client$4).clm.	USPAT			21:56
S6	27	(measur$6 near5 qualitative near4 parameter).clm.	US-PGPUB; USPAT	AND	ON	2018/03/12 22:00
S7	1	S5 S6	US-PGPUB; USPAT	AND	ON	2018/03/12 22:00
S8	1	15/287706	US-PGPUB; USPAT	AND	ON	2018/03/12 22:02
S133	24	(mesh near4 point near4 client).clm.	US-PGPUB; USPAT	AND	ON	2018/08/23 21:46
S134	76	(second$4 near4 mesh$4 near6 measur$6).clm.	US-PGPUB; USPAT	AND	ON	2018/08/23 21:46
S135	1	S133 S134	US-PGPUB; USPAT	AND	ON	2018/08/23 21:46
S136	25	(mesh$4 near3 point near5 client$4).clm.	US-PGPUB; USPAT	AND	ON	2018/08/23 21:46
S137	27	(measur$6 near5 qualitative near4 parameter).clm.	US-PGPUB; USPAT	AND	ON	2018/08/23 21:46
S138	1	S136 S137	US-PGPUB; USPAT	AND	ON	2018/08/23 21:46
S139	3	15/287706	US-PGPUB; USPAT	AND	ON	2018/08/23 21:46

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15287706	NOA	08/31/2018	110729-8052.US01
	1449	08/31/2018	110729-8052.US01

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PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

Title of Invention: ROAMING IN A WIRELESS MESH NETWORK

As a below named inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

[X] United States application or PCT international application number 15/287,706 filed on October 6, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. Section 1.56.

Whereas, the undersigned inventor(s) has/have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the Attorney Docket Number provided above in the header of this document;

Whereas, **NETGEAR, Inc.**, a corporation duly organized under and pursuant to the laws of the state of California, having its principal place of business at 350 East Plumeria Drive, San Jose, CA 95134, desires to acquire and each undersigned inventor desires to grant to **NETGEAR, Inc.** the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for one dollar ($1.00) and good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, each undersigned inventor, hereinafter referred to as **ASSIGNOR**, hereby sells or has sold, assigns or has assigned, and otherwise transfers or has transferred to **NETGEAR, Inc.**, hereinafter referred to as **ASSIGNEE**, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, each undersigned inventor hereby authorizes and requests the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the Assignee, its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the same to be held and enjoyed by the Assignee, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made; and each undersigned inventor agrees to execute, without charge to said Assignee but at the Assignee's expense, any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, in Assignee, its successors, legal representatives, and assigns, whenever requested by the Assignee, its successors, legal representatives, or assigns.

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Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to the Assignee and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants the assignee, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

1) Legal Name of Inventor: Peiman Amini

Signature: _____ Date: 09/07/2019

2) Legal Name of Inventor: Joseph Amalan Arul Emmanuel

Signature: _____ Date: 09/07/2018