EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"15453850"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:27
L2	452	((Emmanuel)near3(Joseph Amalan Arul)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:28
L3	452	((Emmanuel)near3(Joseph)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:28
L4	452	((Emmanuel)near3(Joseph Amalan)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:29
L5	243	((Amini)near3(Peiman)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:29
L6	1291	"20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:33

		"9948326" "20160330651" "7408907" "20150071164" "20160277972" "20150063157" "20180183468" "9936422" "9722690" "9667337" "20180183466" "7228355" "20070008927" "20180183467" "20050170825" "8923754" "20170135022" "8600295" "20170135018" "8254986" "9048897" "20040047324" "8918049" "9042333" "20160157109" "20170134255" RE44606 "8611812" "20100120361" "20180027365" "20080310371" "20150023202" "9136931" "20140241296" "9913075" "7463890" "20130083662" "20130088963" "7983613" "20140369273" "20150117322" "20140247895" "20120034943" "20160242040" "20170359732" "20140059218" "20130070809" "9277591" "9247583" "8320949" "20130265890" "20170135145" "20180278697" "20110255449" "20160037384" "20150223160" "20160212031" "20180035244" "20160135209" "20030153338" "9801003" "20160119838" "9838827" "20060019679"				
L7	735	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651" "9948326" "20160330651" "7408907" "20150071164" "20160277972" "20150063157" "20180183468" "9936422" "9722690" "9667337" "20180183466" "7228355" "20070008927" "20180183467" "20050170825" "8923754" "20170135022" "8600295" "20170135018" "8254986" "9048897" "20040047324" "8918049" "9042333" "20160157109" "20170134255" RE44606	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:33

L8	495	"8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651" "9948326" "20160330651" "7408907" "20150071164" "20160277972" "20150063157"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:34
L9	485	"8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651" "9948326" "20160330651" "7408907"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:34
L10	3	"20170164323"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 11:25
L11	2	roam$3 with multi-band wireless device$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 12:39
L13	8	roam$3 with multi-band near3 device$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 12:42
L14	2	switch SAME multi-band wireless network independently	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	ADJ	OFF	2018/11/13 13:23

			DERWENT; IBM_TDB			
L15	3	switch SAME multi-band wireless network	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:23
L16	2	switch SAME multi-band network	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:24
L20	5073	Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:46
L21	9	Roam$3 AND (received signal strength indicator OR(RSSI)) and downlink power near5 uplink power	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:47
L22	1	candidate wireless networking device AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:48
L23	21803	Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 13:50
L24	6504	Roam$3 AND (handover hand-over handoff hand-off)and independently	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 13:50
L26	87	switch SAME multi-band SAME (individually freely independently)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 13:53
L27	1	"802.11v" BSS transition management (BTM)	US-PGPUB; USPAT; USOCR;	ADJ	OFF	2018/11/13 14:34

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L28	12	"802.11v" BSS transition management	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 14:34
S1	1	"15453850"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/13 16:37
S2	5722	370/332.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/13 16:39
S3	111757	(H04W36/30 H04W36/08 H04W36/38 H04W84/12).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/13 16:40
S4	33	"7155167"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:45
S5	37	"7502354"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:45
S6	42	"7567822"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:46
S7	7	"8248948"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:46
S8	6	"20020042274"	US-PGPUB;	OR	OFF	2018/10/14

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			12:48
S9	4	"20050048963"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:49
S10	3	"20070206528"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:49
S11	3	"20080247317"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:50
S12	15	"20090067369"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:50
S13	6	"20090135738"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:50
S14	2	"20100157888"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:50
S15	3	"20100231473"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:51
S16	2	"20100246416"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/10/14 12:51

			IBM_TDB			
S17	2	"20100291931"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:53
S18	2	"20110250926"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:53
S19	3	"20110299422"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:54
S20	8	"20120129517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:56
S21	2	"20140254400"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:57
S22	5	"20150103685"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:57
S23	3	"20150215791"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:58
S24	5	"20160029384"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:58
S25	4	"20160066249"	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/10/14 12:59

			EPO; JPO; DERWENT; IBM_TDB			
S26	5	"20160094946"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:59
S27	3	"20160227544"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:59
S28	3	"20160269097"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:00
S29	2	"20160308755"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:00
S30	5	"20170006431"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:01
S31	4	"20170118705"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:01
S32	54	"9001767"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:02
S33	6	"9179495"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:02
S34	11	"9832796"	US-PGPUB; USPAT;	OR	OFF	2018/10/14 13:03

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S35	2	"20070280453"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:03
S36	6	"20080025208"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:03
S37	6	"20080080414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:04
S38	6	"20090046655"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:04
S39	4	"20090135794"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:05
S40	2	"20090221238"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:05
S41	3	"20090252127"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:05
S42	6	"20100118830"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:05

S43	3	"20100260146"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:06
S44	10	"20110081903"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:07
S45	2	"20110286404"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:07
S46	9	"20120020319"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:07
S47	3	"20120224484"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:08
S48	3	"20120225646"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:08
S49	2	"20120294200"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:09
S50	2	"20130194948"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:09
S51	6	"20140233412"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;			

			DERWENT; IBM_TDB			
S52	9	"20140270306"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:09
S53	5	"20150029067"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:10
S54	7	"20150049616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:11
S55	5	"20150092681"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:11
S56	3	"20150264614"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:12
S57	3	"20150334750"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:12
S58	7	"20160007273"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:13
S59	4	"20160142163"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:13
S60	2	"20160212755"	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/10/14 13:14

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S61	2	"20160286374"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:14
S62	2	"20160366632"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:14
S63	3	"20170048913"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:14
S64	3	"20170070919"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:15
S65	4	"20170125920"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:15
S66	4	"20170127295"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:16
S67	3	"20170127325"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:16
S68	2	"20170164260"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:16
S69	2	"20170215091"	US-PGPUB;	OR	OFF	2018/10/14

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:17
S70	2	"20170251410"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:17
S71	2	"20170325243"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:17
S72	1	"15632117"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 17:35
S73	2	"20170164323"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 19:26
S74	7	"15529897"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 21:11
S75	2151	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:28

"20050042999" "10104660" "9363651"
"9948326" "7408907" "20160330651"
"20160277972" "20150071164"
"9936422" "20180183468"
"20150063157" "9722690" "9667337"
"20180183466" "7228355"
"20050170825" "20180183467"
"20070008927" "20170135022"
"8923754" "8600295" "20170135018"
"9048897" "20040047324" "8254986"
RE44606 "9042333" "20170134255"
"20160157109" "8918049"
"20080310371" "20100120361"
"9136931" "8611812" "20180027365"
"20150023202" "7463890" "9913075"
"20140241296" "20140369273"
"20130083662" "20150117322"
"20120034943" "20130088963"
"7983613" "20170359732"
"20160242040" "20140059218"
"20140247895" "9277591" "8320949"
"9247583" "20130070809"
"20130265890" "20170135145"
"20160212031" "20110255449"
"20180278697" "20180035244"
"20160037384" "9801003"
"20150223160" "20160119838"
"20160135209" "9838827" "9326313"
"20030153338" "20030210672"
"9241370" "20100290352"
"20140369271" "20060019679"
"9723491" "10057784" "20170288727"
"8331854" "8953474" "20140370826"
"9232566" "20180109907" "9655038"
"20170251429" "8462695" "9877142"
"20150215950" "20070253339"
"20170367102" "20040054774"
"20160037360" "20170006409"
"9451626" "20160044673"
"20040078566" "20160135198"
"9924296" "9750022" "7113497"
"9775164" "8019352" "9265090"
"20140369272" "20180020317"
"20150312891" "7653392"
"20040076134" "20070104215"
"20170374602" "20120300746"
"20080107090" "20180206184"
"7197569" "9137663" "7941149"
"20050198199" "20050170824"
"20040078598" "7382756"
"20050169227" "7293110"
"20060195551" "20080025282"
"20150271779" "9307517" "7881269"
"20070232307" "20170273013"
"20050157677" "20050073979"
"9668088" "7440573" "20170265033"
"7509437" "6985931" "7188185"
"7248858" "7779071" "8838752"
"20170311259" "20150223192"
"9565610" "20060187873"
"20160037458" "20050195842"
"7805140" "7581030" "20050169228"
"10091730" "7035932" "20090252097"
"9706491" "7032009" "20170195856"

		"9258765" "7631105" "7822865" "9955432" "20070260710" "20050195841" "20130188625" "20070260709" "9820105" "20150119035" "20180213412" "9642167" "20090119417"				
S76	1551	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337" "20180183466" "7228355" "20050170825" "20180183467" "20070008927" "20170135022" "8923754" "8600295" "20170135018" "9048897" "20040047324" "8254986" RE44606 "9042333" "20170134255" "20160157109" "8918049" "20080310371" "20100120361" "9136931" "8611812" "20180027365" "20150023202" "7463890" "9913075" "20140241296" "20140369273" "20130083662" "20150117322" "20120034943" "20130088963" "7983613" "20170359732" "20160242040" "20140059218" "20140247895" "9277591" "8320949" "9247583" "20130070809" "20130265890" "20170135145" "20160212031" "20110255449" "20180278697" "20180035244" "20160037384" "9801003" "20150223160" "20160119838" "20160135209" "9838827" "9326313" "20030153338" "20030210672" "9241370" "20100290352" "20140369271" "20060019679" "9723491" "10057784" "20170288727" "8331854" "8953474" "20140370826" "9232566" "20180109907" "9655038" "20170251429" "8462695" "9877142" "20150215950" "20070253339" "20170367102" "20040054774"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:29

		"20160037360" "20170006409" "9451626" "20160044673" "20040078566" "20160135198" "9924296" "9750022" "7113497" "9775164" "8019352" "9265090" "20140369272" "20180020317" "20150312891" "7653392"				
S77	708	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337" "20180183466" "7228355" "20050170825" "20180183467" "20070008927" "20170135022" "8923754" "8600295" "20170135018" "9048897" "20040047324" "8254986" RE44606 "9042333" "20170134255" "20160157109" "8918049" "20080310371"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:29
S78	660	"20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337" "20180183466" "7228355" "20050170825" "20180183467" "20070008927" "20170135022" "8923754" "8600295" "20170135018"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:29

		"9048897" "20040047324" "8254986"				
S79	493	"20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:31

11/13/2018 2:47:23 PM
C:\Users\jvoltaire\Documents\EAST\Workspaces\15453850.wsp

A method for effecting clie... + 0 mods | 0 filters STIC

Visuals Sort: Relevance Cut-off: None De-dup: None

1 - 50 14,545,833 results

1. **Client roaming in a distributed multi-band wireless networking system**

Client roaming techniques, such as those set forth in 802.11k, are extended to access point-based client roaming in a distributed multi-band wireless networking system. In particular, access points (APs) implement a series of algorithms that compare signals and make decisions on when to switch a...

CURRENT ASSIGNEES: NETGEAR INC
US20180084471 | US APPLICATIONS | 22-MAR-2018

2. **Changing topology in a wireless network**

Methods, apparatuses, and embodiments related to a technique for changing topology of a wireless network in a multi-band wireless networking system. In a wireless network with multiple wireless networking devices and one or more client devices, communications between the wireless networking devices...

CURRENT ASSIGNEES: NETGEAR INC
US20180102961 | US APPLICATIONS | 12-APR-2018

3. **Managing interference in a wireless network**

Methods, apparatuses, and embodiments related to a technique for managing interference of communication of a wireless network in a multi-band wireless networking system. In an example wireless network with multiple wireless networking devices and one or more client devices, communications between...

CURRENT ASSIGNEES: NETGEAR INC
US20180103392 | US APPLICATIONS | 12-APR-2018

4. **Indoor positioning and tracking using a multi-band wireless networking system**

Systems and methods are introduced for indoor positioning and tracking of devices and objects using a multi-band wireless networking system. In an embodiment, multiple wireless networking devices are interconnected via a dedicated wireless backhaul to collectively form a single multi-band wireless...

CURRENT ASSIGNEES: NETGEAR INC
US20180103351 | US APPLICATIONS | 12-APR-2018

5. **Controlling channel usage in a wireless network**

Methods, apparatuses, and embodiments related to a technique for controlling channel usage in a wireless network in a multi-band wireless networking system. In a wireless network with multiple wireless networking devices and one or more client devices, communications between the wireless networking...

CURRENT ASSIGNEES: NETGEAR INC
US20180103404 | US APPLICATIONS | 12-APR-2018

6. **Robust control plane for management of a multi-band wireless networking system**

Systems and methods are introduced for managing a multi-band wireless networking system using a robust control plane. In an embodiment, multiple wireless networking devices are interconnected via a dedicated wireless backhaul to collectively form a single multi-band wireless network providing broad...

CURRENT ASSIGNEES: NETGEAR INC
US20180310221 | US APPLICATIONS | 25-OCT-2018

Top 1500 results

Relevance VIEW

1 Results
700 Results
793 Results
0 Results
0 Results

Publication Date VIEW

1996 2018

Cur Assignee by Relevance VIEW

NETGEAR INC (102)
HEWLETT PACKARD ENTPR... (76)
HPE ARUBA (8)
SYMBOL TECH LLC (12)
QUALCOMM INC (47)
INCNETWORKS INC (9)
INTEL CORP (49)

View More Visualizations

Result #1 PREV NEXT

TP Link Ex. 1004
Page 131

A method for effecting clie... + 0 mods | 0 filters

STIC

Visuals | Sort: Relevance | Cut-off: None | De-dup: None

selecting a first ap to provide wireless client device access the wireless network. First ap can be at least partially based on the wireless customer terminal device and the network equipment...

CURRENT ASSIGNEES: QUALCOMM INC
CN105940723A | CHINA APPLICATIONS | 14-SEP-2016

24 **Method for establishing high-reliability wireless connectivity to mobile devices using multi channel radios**

A method of using a high throughput multi-channel wireless network client apparatus, comprising running a driver software on an intelligence unit, running a firmware code on a multi-channel radio unit, scanning a network environment for available channels, generating a list of available access...

CURRENT ASSIGNEES: SYMBOL TECH LLC
US20060045113 | US APPLICATIONS | 02-MAR-2006

25 **Signal strength aware band steering**

A system or method that receives a current request from a client, and responds to the current request based on signal strength associated with a previous request. If the current request is received on a non-preferred communication band, and a previous request was received on a preferred...

CURRENT ASSIGNEES: HEWLETT PACKARD ENTPR DEV LP
US20140211716 | US APPLICATIONS | 31-JUL-2014

26 **Signal strength aware band steering**

A system or method that receives a current request from a client, and responds to the current request based on signal strength associated with a previous request. If the current request is received on a non-preferred communication band, and a previous request was received on a preferred...

CURRENT ASSIGNEES: HEWLETT PACKARD ENTPR DEV LP
US20170041108 | US APPLICATIONS | 09-FEB-2017

27 **Signal strength aware band steering**

A system or method that receives a current request from a client, and responds to the current request based on signal strength associated with a previous request. If the current request is received on a non-preferred communication band, and a previous request was received on a preferred...

CURRENT ASSIGNEES: HEWLETT PACKARD ENTPR DEV LP
US9473285 | US PATENTS | 18-OCT-2016

28 **Signal strength aware band steering**

A system or method that receives a current request from a client, and responds to the current request based on signal strength associated with a previous request. If the current request is received on a non-preferred communication band, and a previous request was received on a preferred...

CURRENT ASSIGNEES: HEWLETT PACKARD ENTPR DEV LP
US20120275320 | US APPLICATIONS | 01-NOV-2012

29 **Signal strength aware band steering**

A system or method that receives a current request from a client, and responds to the current request based on signal strength associated with a previous request. If the current request is received on a non-preferred communication band, and a previous request was received on a preferred...

Result #1 PREV NEXT

Top 1500 results

Relevance VIEW

1 Results
702 Results
792 Results
0 Results
0 Results

Publication Date VIEW

1996 2018

Cur Assignee by Relevance VIEW

NETGEAR INC (103)
HEWLETT PACKARD ENTPR... (76)
HPE ARUBA (8)
SYMBOL TECH LLC (12)
QUALCOMM INC (47)
INCNETWORKS INC (9)
INTEL CORP (48)

View More Visualizations

TP Link Ex. 1004
Page 132

Bibliographic Data

Application No: 15/453,850

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /JEAN F VOLTAIRE/ Examiner's Signature | Initials

Title: CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
03/08/2017	370	2466	110729-8063.US01
RULE			

APPLICANTS

NETGEAR, INC., San Jose, CA,

INVENTORS

Joseph Amalan Arul EMMANUEL Cupertino, CA, UNITED STATES

Peiman Amini Mountain View, CA, UNITED STATES

CONTINUING DATA

This application has PRO of 62406325 10/10/2016

This application is a CIP of 15287706 10/06/2016

This application is a CIP of 15287711 10/06/2016

This application is a CIP of 15271912 09/21/2016 PAT 9967884

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

03/15/2017

STATE OR COUNTRY

UNITED STATES

ADDRESS

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

FILING FEE RECEIVED

$1,740

To: patentprocurement@perkinscoie.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 22918

Nov 26, 2018 03:42:23 AM

Dear PAIR Customer:

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

The following USPTO patent application(s) associated with your Customer Number, 22918 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
15453850	CTNF	11/26/2018	110729-8063.US01
	892	11/26/2018	110729-8063.US01
	1449	11/26/2018	110729-8063.US01
	1449	11/26/2018	110729-8063.US01

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

Docket No.: 110729-8063.US01
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Joseph Amalan Arul EMMANUEL	Customer No.: 22918
Application No.: 15/453,850	Confirmation No.: 5714
Filed: March 8, 2017	Art Unit: 2466
For: CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM	Examiner: Jean F. Voltaire

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

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

This document is submitted in response to the Office Action dated November 26, 2018. The Examiner is requested to enter the following amendments and reconsider the application.

A **Listing of the Claims** begin on page 2 of this document; and
Applicant's **Remarks** begin on page 13 of this document.

LISTING OF THE CLAIMS

1. – 2. (Cancelled)

3. (Currently Amended) ~~The method of Claim 1~~, A method for effecting client roaming in a distributed multi-band wireless networking system, comprising:

wirelessly interconnecting a plurality of wireless networking devices via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices collectively comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network dynamically optimizing wireless connections to said client devices by comparing signals received from said client devices at said wireless networking devices and making decisions to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client;

said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device further comprising:

a first one of said wireless networking devices requesting that a client conduct an 802.11k response on a current channel;

said first wireless networking device receiving from said client a received signal strength indicator (RSSI) measurement of the power present in a received radio signal at said client;

said first wireless networking device conducting an uplink/downlink calibration;

said first wireless networking device using said calibration to estimate downlink power based on uplink power;

said first wireless networking device conducting an 802.11k response on a second, candidate wireless networking device;

said first wireless networking device inferring an 802.11k measurement based on a last received packet on said second, candidate wireless networking device;

said first and second wireless networking devices using said dedicated wireless channel for communications between said wireless networking devices to compare a downlink measurement on second wireless networking device with an estimated downlink power on said first wireless networking device; and

one or both of said first and second wireless networking devices making a decision whether or not the client should be instructed to roam.

4. (Currently Amended) ~~The method of Claim 1, further comprising~~ A method for effecting client roaming in a distributed multi-band wireless networking system, comprising:

wirelessly interconnecting a plurality of wireless networking devices via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices collectively comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network dynamically optimizing wireless connections to said client devices by comparing signals received from said client devices at said wireless networking devices and making decisions to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client;

when a client supports 802.11k, a first wireless networking device performing an 802.11k measurement to determine a difference in power;

said first wireless networking device requesting a measurement report on a current channel and receiving said 802.11k report from said client indicating how well a signal from the first wireless networking device is received at the client;

said first wireless networking device comparing downlink power provided in said 802.11k report to an RSSI of an 802.11k report packet;

said first wireless networking device determining a delta measurement between downlink power provided in said 802.11k report and said RSSI of said 802.11k report packet;

said first wireless networking device determining that said client should look at other channels when said delta measurement equals or exceeds a predetermined value; and

said first wireless networking device instructing said client to look at other channels.

5. ((Currently Amended) ~~The method of Claim 1~~, A method for effecting client roaming in a distributed multi-band wireless networking system, comprising:

wirelessly interconnecting a plurality of wireless networking devices via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices collectively comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network dynamically optimizing wireless connections to said client devices by comparing signals received from said client devices at said wireless networking devices and making decisions to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client;

said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device further comprising:

said multi-band wireless network operating a first one or more of said wireless network devices in a monitor mode for legacy clients with wireless network devices on a same channel;

said multi-band wireless network operating a second one or more of said wireless network devices in a sniffing mode to detect said clients;

said wireless network devices coordinating their operation with each other via said wireless channel which is dedicated for communications between said wireless networking devices;

said multi-band wireless network determining when a wireless network device other than a wireless network device currently in communication with said client is better suited to handle a client by a predetermined margin; and

said multi-band wireless network triggering roaming when a wireless network device other than a wireless network device currently in communication with said client is determined better suited to handle said client.

6. (Original) The method of Claim 5, wherein monitor mode candidates comprise any of the following clients:

legacy clients having an RSSI smaller than a predetermined value;

clients with which an 802.11k request fails;

clients with which 802.11k measurements are not accurate; and

clients in which an 802.11k measurement has a delay that is larger than a predetermined level.

7. (Original) The method of Claim 5, further comprising:

said multi-band wireless network using monitor mode to calibrate transmit and receive power differences.

8. (Original) The method of Claim 5, further comprising:

said multi-band wireless network performing a fast channel switch, in which a wireless network device hops to a channel other than a channel with which it communicates with a client to make a measurement and then hops back to said channel which it communicated with said client without said client treating said wireless network device as disconnected.

9. (Currently Amended) ~~The method of Claim 1, further comprising~~ A method for effecting client roaming in a distributed multi-band wireless networking system, comprising:

wirelessly interconnecting a plurality of wireless networking devices via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices collectively comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network dynamically optimizing wireless connections to said client devices by comparing signals received from said client devices at said wireless networking devices and making decisions to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client;

said multi-band wireless network performing monitor mode on different channels;

said multi-band wireless network coordinating a channel switch via said wireless channel which is dedicated for communications between said wireless networking devices;

said multi-band wireless network requesting a non-serving wireless network device operating on a first channel to move to a serving wireless network device operating on a second channel;

said non-serving wireless network device making a measurement on said second channel;

said non-serving wireless network device returning to said first channel;

said non-serving wireless network device sending said measurement back to said serving wireless network device via said wireless channel which is dedicated for communications between said wireless networking devices;

said serving wireless network device sending a control packet on said second channel indicating that it is offline for a predetermined interval;

said multi-band wireless network measuring an uplink RSSI with at least two wireless network devices;

said multi-band wireless network comparing said measured RSSI between at least two wireless network devices on different channels; and

said multi-band wireless network making a client roaming decision.

10. – 12.(Cancelled)

13. (Currently Amended) ~~The apparatus of Claim 11,~~ An apparatus for effecting client roaming in a distributed multi-band wireless networking system, comprising:

a plurality of wireless networking devices wirelessly interconnected via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network comprising at least one processor that dynamically optimizes wireless connections to the client devices by comparing signals received from said client devices at said wireless networking devices and that makes decisions at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made by said multi-band wireless network independently of said client;

said processor making said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device by executing programmed steps in which:

a first one of said wireless networking devices requests that a client conduct an 802.11k response on a current channel;

wherein said first wireless networking device receives from said client a received signal strength indicator (RSSI) measurement of the power present in a received radio signal at said client;

said first wireless networking device conducts an uplink/downlink calibration;

said first wireless networking device uses said calibration to estimate downlink power based on uplink power;

said first wireless networking device conducts an 802.11k response on a second, candidate wireless networking device;

said first wireless networking device infers an 802.11k measurement based on a last received packet on said second, candidate wireless networking device;

said first and second wireless networking devices use said dedicated wireless channel for communications between said wireless networking devices to compare a downlink measurement on second wireless networking device with an estimated downlink power on said first wireless networking device; and

one or both of said first and second wireless networking devices make a decision whether or not the client should be instructed to roam.

14. (Currently Amended) ~~The apparatus of Claim 11,~~ An apparatus for effecting client roaming in a distributed multi-band wireless networking system, comprising:

a plurality of wireless networking devices wirelessly interconnected via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network comprising at least one processor that dynamically optimizes wireless connections to the client devices by comparing signals received from said client devices at said wireless networking devices and that makes decisions at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made by said multi-band wireless network independently of said client; and

further comprising said processor executing programmed steps in which:

when a client supports 802.11k, a first wireless networking device performs an 802.11k measurement to determine a difference in power;

said first wireless networking device requests a measurement report on a current channel and receiving said 802.11k report from said client indicating how well a signal from the first wireless networking device is received at the client;

said first wireless networking device compares downlink power provided in said 802.11k report to an RSSI of an 802.11k report packet;

said first wireless networking device determines a delta measurement between downlink power provided in said 802.11k report and said RSSI of said 802.11k report packet;

said first wireless networking device determines that said client should look at other channels when said delta measurement equals or exceeds a predetermined value; and

said first wireless networking device instructs said client to look at other channels.

15. (Currently Amended) ~~The apparatus of Claim 11,~~ An apparatus for effecting client roaming in a distributed multi-band wireless networking system, comprising:

a plurality of wireless networking devices wirelessly interconnected via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network comprising at least one processor that dynamically optimizes wireless connections to the client devices by comparing signals received from said client devices at said wireless networking devices and that makes decisions at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made by said multi-band wireless network independently of said client;

said processor making said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device further comprising executing programmed steps in which:

said multi-band wireless network operates a first one or more of said wireless network devices in a monitor mode for legacy clients with wireless network devices on a same channel;

said multi-band wireless network operates a second one or more of said wireless network devices in a sniffing mode to detect said clients;

said wireless network devices coordinate their operation with each other via said wireless channel which is dedicated for communications between said wireless networking devices;

said multi-band wireless network determines when a wireless network device other than a wireless network device currently in communication with said client is better suited to handle a client by a predetermined margin; and

said multi-band wireless network triggers roaming when a wireless network device other than a wireless network device currently in communication with said client is determined better suited to handle said client.

16. (Original) The apparatus of Claim 15, wherein monitor mode candidates comprise any of the following clients:

legacy clients having an RSSI smaller than a predetermined value;

clients with which an 802.11k request fails;

clients with which 802.11k measurements are not accurate; and

clients in which an 802.11k measurement has a delay that is larger than a predetermined level.

17. (Original) The apparatus of Claim 15, wherein said multi-band wireless network uses monitor mode to calibrate transmit and receive power differences.

18. (Original) The apparatus of Claim 15, further comprising:

said processor programmed to execute steps with which said multi-band wireless network performs a fast channel switch, in which a wireless network device hops to a channel other than a channel with which it communicates with a client to make a measurement and then hops back to said channel which it communicated with said client without said client treating said wireless network device as disconnected.

TP Link Ex. 1004
Page 144

19. (Currently Amended) ~~The apparatus of Claim 11,~~ An apparatus for effecting client roaming in a distributed multi-band wireless networking system, comprising:

a plurality of wireless networking devices wirelessly interconnected via a wireless channel which is dedicated for communications between said wireless networking devices;

said interconnected wireless networking devices comprising a single, multi-band wireless network providing broad coverage to said client devices; and

said multi-band wireless network comprising at least one processor that dynamically optimizes wireless connections to the client devices by comparing signals received from said client devices at said wireless networking devices and that makes decisions at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device;

wherein said decision to switch said client is made by said multi-band wireless network independently of said client; AND

further comprising said process programmed to execute steps in which:

said multi-band wireless network performs monitor mode on different channels;

said multi-band wireless network coordinates a channel switch via said wireless channel which is dedicated for communications between said wireless networking devices;

said multi-band wireless network requests a non-serving wireless network device operating on a first channel to move to a serving wireless network device operating on a second channel;

said non-serving wireless network device makes a measurement on said second channel;

said non-serving wireless network device returns to said first channel;

said non-serving wireless network device sends said measurement back to said serving wireless network device via said wireless channel which is dedicated for communications between said wireless networking devices;

said serving wireless network device sends a control packet on said second channel indicating that it is offline for a predetermined interval;

said multi-band wireless network measures an uplink RSSI with at least two wireless network devices;

said multi-band wireless network compares said measured RSSI between at least two wireless network devices on different channels; and

said multi-band wireless network makes a client roaming decision.

20. (Cancelled)

REMARKS

Claim Rejections - 35 U.S.C. §102

Claims 1, 2, 11 and 12 are rejected under 35 U.S.C. 102 as being anticipated by MARKHOVSKY et al. (US 2017/0164323)(hereinafter "Markhovsky").

Claim Rejections - 35 U.S.C. §103

Claims 10 and 20 stand rejected under 35 U.S.C. 103 as being unpatentable over Markhovsky in view of Babiarz et al. (US 2012/0224481)(hereinafter "Babiarz").

Allowable subject Matter

Claims 3-9 and 13-19 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.

Responsive thereto, Applicant has cancelled Claims 1, 2, 10-12, and 20. Claims 3-5, 9, 13-15, and 19 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims. As such, the application is deemed to be in allowable condition.

TP Link Ex. 1004
Page 147

Applicant is of the opinion that no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 110729-8063.US01 from which the undersigned is authorized to draw.

Dated: 02/26/2019

Respectfully submitted,

By _____

Michael A. Glenn
Registration No.: 30,176
PERKINS COIE LLP
P.O. Box 1247
Seattle, WA 98111-1247
Phone: (650) 838-4495
Fax: (206) 359-7198
Attorney for Applicant

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	15453850
Filing Date	2017-03-08
First Named Inventor	Joseph Amalan Arul Emmanuel
Art Unit	2466
Examiner Name	Jean F. Voltaire
Attorney Docket Number	110729-8063.US01

U.S.PATENTS

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	9467929	B2	2016-10-11	SEKINE	
	2	9942709	B2	2018-04-10	SUNG	

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

U.S.PATENT APPLICATION PUBLICATIONS

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	20090116407	A1	2009-05-07	ISHII	
	2	20160192203	A1	2016-06-30	GOKTURK, et al.	
	3	20170238189	A1	2017-08-17	NOLAN, et al.	

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

FOREIGN PATENT DOCUMENTS

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]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15453850
	Filing Date	2017-03-08
	First Named Inventor	Joseph Amalan Arul Emmanuel
	Art Unit	2466
	Examiner Name	Jean F. Voltaire
	Attorney Docket Number	110729-8063.US01

	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

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		☐

If you wish to add additional non-patent literature document citation information please click the Add button

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	15453850
	Filing Date	2017-03-08
	First Named Inventor	Joseph Amalan Arul Emmanuel
	Art Unit	2466
	Examiner Name	Jean F. Voltaire
	Attorney Docket Number	110729-8063.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	~	Date (YYYY-MM-DD)	2019-02-26
Name/Print	Michael A. Glenn	Registration Number	30176

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.**

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 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:	15453850
Filing Date:	08-Mar-2017
Title of Invention:	CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM
First Named Inventor/Applicant Name:	Joseph Amalan Arul EMMANUEL
Filer:	Michael Glenn/Christine Ortt
Attorney Docket Number:	110729-8063.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:				
INDEPENDENT CLAIMS IN EXCESS OF 3	1201	5	460	2300
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**2540**

Electronic Acknowledgement Receipt

EFS ID:	35260615
Application Number:	15453850
International Application Number:	
Confirmation Number:	5714
Title of Invention:	CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM
First Named Inventor/Applicant Name:	Joseph Amalan Arul EMMANUEL
Customer Number:	22918
Filer:	Michael Glenn/Christine Ortt
Filer Authorized By:	Michael Glenn
Attorney Docket Number:	110729-8063.US01
Receipt Date:	26-FEB-2019
Filing Date:	08-MAR-2017
Time Stamp:	19:10:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$2540
RAM confirmation Number	022719INTEFSW19105700
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		2019-02-26_Response_110729-8063US01.pdf	757782 f94a781fe2a115ff871008 1e92ac9d82f3d84a76	yes	14

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	12
	Applicant Arguments/Remarks Made in an Amendment	13	14

Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	2019-02-26_IDS_110729-8063US01.pdf	497363 3b72ff52a7f1c70e83b66cc4ccceef2881f89fa0ec	no	4
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Fee Worksheet (SB06)	fee-info.pdf	32547 91a86000 5d0785e9f81c0dd7f4646801db063278	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1287692		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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 displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/453,850	Filing Date 03/08/2017	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $420 =	
☐ 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).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	02/26/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 14	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 8	Minus	*** 3	= 5		x $460 =	2300
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	2300

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/JACQUELYN L WILLIAMS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

22918 7590 03/13/2019
PERKINS COIE LLP - PAO General
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER	
VOLTAIRE, JEAN F	
ART UNIT	PAPER NUMBER
2466	

DATE MAILED: 03/13/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/453,850	03/08/2017	Joseph Amalan Arul EMMANUEL	110729-8063.US01	5714

TITLE OF INVENTION: CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM

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	06/13/2019

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: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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 03/13/2019
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.

Certificate of Mailing or Transmission

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/453,850	03/08/2017	Joseph Amalan Arul EMMANUEL	110729-8063.US01	5714

TITLE OF INVENTION: CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM

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	06/13/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
VOLTAIRE, JEAN F	2466	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 03-09 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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

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

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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 160

UNITED STATES PATENT AND TRADEMARK OFFICE

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.
15/453,850	03/08/2017	Joseph Amalan Arul EMMANUEL	110729-8063.US01	5714

22918 7590 03/13/2019

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

EXAMINER	
VOLTAIRE, JEAN F	

ART UNIT	PAPER NUMBER
2466	

DATE MAILED: 03/13/2019

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 30 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. 15/453,850	Applicant(s) EMMANUEL et al.	
	Examiner JEAN F VOLTAIRE	Art Unit 2466	AIA (FITF) 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 the amendment filed on 02/26/2019.
   ☐ 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 3-9, 13-19 renumbered as 1-14 . 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 _____.

/JEAN F VOLTAIRE/ Examiner, Art Unit 2466	/FARUK HAMZA/ Supervisory Patent Examiner, Art Unit 2466

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Allowability Notice

Reason for Allowance

2. Claims 3-9, 13-19 are allowed.

3. The following is an examiner's statement of reasons for allowance:

4. Claims 3-9, 13-19 are allowed for the reasons as set forth in applicants' arguments and amendments filed on 02/26/2019.

This is the primary reason for the allowance of claim 3; an updated search has been performed, and no prior arts have been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client; said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device further comprising: a first one of said wireless networking devices requesting that a client conduct an 802.11k response on a current channel; said first wireless networking device receiving from said client a received signal strength indicator (RSSI) measurement of the power present in a received radio signal at said client; said first wireless networking device conducting an uplink/downlink calibration;

said first wireless networking device using said calibration to estimate downlink power based on uplink power; said first wireless networking device conducting an 802.11k response on a second, candidate wireless networking device; said first wireless networking device inferring an 802.11k measurement based on a last received packet on said second, candidate wireless networking device; said first and second wireless networking devices using said dedicated wireless channel for communications between said wireless networking devices to compare a downlink measurement on second wireless networking device with an estimated downlink power on said first wireless networking device; and one or both of said first and second wireless networking devices making a decision whether or not the client should be instructed to roam" as substantially described in amended independent claim 3. These limitations, in combination with the remaining limitations of claim 3, are not taught nor suggested by the prior art of record.

This is the primary reason for the allowance of claim 4; an updated search has been performed, and no prior art has been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client; when a client supports 802.11k, a first wireless networking device performing an 802.11k measurement to determine a difference in power; said first wireless networking device requesting a measurement report on a current channel and receiving said 802.11k report from said client indicating how well a signal from the first wireless networking device is received at the client; said first wireless networking device comparing downlink power provided in said 802.11k report to an RSSI of an

802.11k report packet; said first wireless networking device determining a delta measurement between downlink power provided in said 802.11k report and said RSSI of said 802.11k report packet; said first wireless networking device determining that said client should look at other channels when said delta measurement equals or exceeds a predetermined value; and said first wireless networking device instructing said client to look at other channels" as substantially described in independent claim 4. These limitations, in combination with the remaining limitations of claim 4, are not taught nor suggested by the prior art of record.

This is the primary reason for the allowance of claim 5; an updated search has been performed, and no prior arts have been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client; said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device further comprising: said multi-band wireless network operating a first one or more of said wireless network devices in a monitor mode for legacy clients with wireless network devices on a same channel; said multi-band wireless network operating a second one or more of said wireless network devices in a sniffing mode to detect said clients; said wireless network devices coordinating their operation with each other via said wireless channel which is dedicated for communications between said wireless networking devices; said multi-band wireless network determining when a wireless network device other than a wireless network device currently in communication with said client is better suited to handle a client by a predetermined

margin; and said multi-band wireless network triggering roaming when a wireless network device other than a wireless network device currently in communication with said client is determined better suited to handle said client" as substantially described in amended independent claim 5. These limitations, in combination with the remaining limitations of claim 5, are not taught nor suggested by the prior art of record.

This is the primary reason for the allowance of claim 9; an updated search has been performed, and no prior arts have been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made for said client by said multi-band wireless network independently of said client; said multi-band wireless network performing monitor mode on different channels; said multi-band wireless network coordinating a channel switch via said wireless channel which is dedicated for communications between said wireless networking devices; said multi-band wireless network requesting a non-serving wireless network device operating on a first channel to move to a serving wireless network device operating on a second channel; said non-serving wireless network device making a measurement on said second channel; said non-serving wireless network device returning to said first channel; said non-serving wireless network device sending said measurement back to said serving wireless network device via said wireless channel which is dedicated for communications between said wireless networking devices; said serving wireless network device sending a control packet on said second channel indicating that it is offline for a predetermined interval; said multi-band wireless network measuring an uplink RSSI with at least two wireless network devices; said multi-band wireless network comparing said

measured RSSI between at least two wireless network devices on different channels; and said multi-band wireless network making a client roaming decision" as substantially described in amended independent claim 9. These limitations, in combination with the remaining limitations of claim 9, are not taught nor suggested by the prior art of record.

This is the primary reason for the allowance of claim 13; an updated search has been performed, and no prior arts have been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made by said multi-band wireless network independently of said client; said processor making said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device by executing programmed steps in which; a first one of said wireless networking devices requests that a client conduct an 802.11k response on a current channel; wherein said first wireless networking device receives from said client a received signal strength indicator (RSSI) measurement of the power present in a received radio signal at said client; said first wireless networking device conducts an uplink/downlink calibration; said first wireless networking device uses said calibration to estimate downlink power based on uplink power; said first wireless networking device conducts an 802.11k response on a second, candidate wireless networking device; said first wireless networking device infers an 802.11k measurement based on a last received packet on said second, candidate wireless networking device; said first and second wireless networking devices use said dedicated wireless channel for communications between said wireless networking devices to compare a downlink measurement on second wireless networking device with an estimated downlink power

on said first wireless networking device; and one or both of said first and second wireless networking devices make a decision whether or not the client should be instructed to roam" as substantially described in amended independent claim 13. These limitations, in combination with the remaining limitations of claim 13, are not taught nor suggested by the prior art of record.

This is the primary reason for the allowance of claim 14; an updated search has been performed, and no prior arts have been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made by said multi-band wireless network independently of said client; and further comprising said processor executing programmed steps in which: when a client supports 802.11k, a first wireless networking device performs an 802.11k measurement to determine a difference in power; said first wireless networking device requests a measurement report on a current channel and receiving said 802.11k report from said client indicating how well a signal from the first wireless networking device is received at the client; said first wireless networking device compares downlink power provided in said 802.11k report to an RSSI of an 802.11k report packet; said first wireless networking device determines a delta measurement between downlink power provided in said 802.11k report and said RSSI of said 802.11k report packet; said first wireless networking device determines that said client should look at other channels when said delta measurement equals or exceeds a predetermined value; and said first wireless networking device instructs said client to look at other channels" as substantially described in amended independent claim 14.

These limitations, in combination with the remaining limitations of claim 14, are not taught nor suggested by the prior art of record.

This is the primary reason for the allowance of claim 15; an updated search has been performed, and no prior arts have been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made by said multi-band wireless network independently of said client; said processor making said decision at said wireless networking devices to switch a client from one wireless networking device to another wireless networking device further comprising executing programmed steps in which: said multi-band wireless network operates a first one or more of said wireless network devices in a monitor mode for legacy clients with wireless network devices on a same channel; said multi-band wireless network operates a second one or more of said wireless network devices in a sniffing mode to detect said clients; said wireless network devices coordinate their operation with each other via said wireless channel which is dedicated for communications between said wireless networking devices; said multi-band wireless network determines when a wireless network device other than a wireless network device currently in communication with said client is better suited to handle a client by a predetermined margin; and said multi-band wireless network triggers roaming when a wireless network device other than a wireless network device currently in communication with said client is determined better suited to handle said client" as substantially described in amended independent claim 15. These limitations, in combination with the remaining limitations of claim 15, are not taught nor suggested by the prior art of record.

This is the primary reason for the allowance of claim 19; an updated search has been performed, and no prior arts have been found that alone or in any combination would show or suggest a claimed invention comprising, among other limitations, "wherein said decision to switch said client is made by said multi-band wireless network independently of said client; AND further comprising said process programmed to execute steps in which; said multi-band wireless network performs monitor mode on different channels; said multi-band wireless network coordinates a channel switch via said wireless channel which is dedicated for communications between said wireless networking devices; said multi-band wireless network requests a non-serving wireless network device operating on a first channel to move to a serving wireless network device operating on a second channel; said non-serving wireless network device makes a measurement on said second channel; said non-serving wireless network device returns to said first channel; said non-serving wireless network device sends said measurement back to said serving wireless network device via said wireless channel which is dedicated for communications between said wireless networking devices; said serving wireless network device sends a control packet on said second channel indicating that it is offline for a predetermined interval; said multi-band wireless network measures an uplink RSSI with at least two wireless network devices; said multi-band wireless network compares said measured RSSI between at least two wireless network devices on different channels; and said multi-band wireless network makes a client roaming decision" as substantially described in amended independent claim 19. These limitations, in combination with the remaining limitations of claim 19, are not taught nor suggested by the prior art of record.

The present invention distinguishes over the prior art of record in that the closest prior art of record, the Examiner found neither prior art cited in its entirely, nor based on the prior art, found any motivation to combine any of said prior art references which teaches the applicants claimed invention.

Markhovsky et al. (US 2017/0164323 A1), Babiarz et al. (US 2012/0224481 A1), Uplenchwar et al. (US 2015/0018028 A1), Kapoor et al. (US 2017/0251429 A1), closest prior arts of record, alone or in combination, fail to anticipate or render obvious all the limitattions teach recited in amended independent claims 3-5, 9, 13-15, and 19.

Markhovsky et al. (US 2017/0164323 A1), Babiarz et al. (US 2012/0224481 A1), Uplenchwar et al. (US 2015/0018028 A1), Kapoor et al. (US 2017/0251429 A1), closest prior arts of record, alone or in combination, fail to disclose the above claimed invention as recited in amended independent claims 3-5, 9, 13-15, and 19.

Consequently, Markhovsky et al. (US 2017/0164323 A1), Babiarz et al. (US 2012/0224481 A1), Uplenchwar et al. (US 2015/0018028 A1), Kapoor et al. (US 2017/0251429 A1), fail to teach all the limitations of amended independent claims 3-5, 9, 13-15, and 19.

Therefore, claims 6-8 and 16-18, depending respectively on amended independent claims 5 and 15 directly or indirectly, are considered allowable on the basis as the independent claims as well as for the further limitations set forth.

Any comments considered necessary by Applicant must be submitted no later than payment of the issue fee, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN F VOLTAIRE whose telephone number is (571)272-3953. The examiner can normally be reached on M-F 9:00-6:45 PM.

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, FARUK HAMZA can be reached on (571)272-7969. 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.

/JEAN F VOLTAIRE/
Examiner, Art Unit 2466

/FARUK HAMZA/
Supervisory Patent Examiner, Art Unit 2466

Notice of References Cited	Application/Control No. 15/453,850	Applicant(s)/Patent Under Reexamination EMMANUEL et al.	
	Examiner JEAN F VOLTAIRE	Art Unit 2466	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-20170164323-A1	06-2017	MARKHOVSKY; Felix	H04W64/006	1/1
*	B	US-20120224481-A1	09-2012	Babiarz; Jozef	H04L43/0876	370/230.1
*	C	US-20150018028-A1	01-2015	Uplenchwar; Pankaj	H04W52/143	455/522
*	D	US-20170251429-A1	08-2017	Kapoor; Prateek	H04W48/20	1/1
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

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.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/453,850	EMMANUEL et al.
	Examiner	Art Unit
	JEAN F VOLTAIRE	2466

✓	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	10/14/2018	03/06/2019							
-	1	✓	-							
-	2	✓	-							
1	3	O	=							
2	4	O	=							
3	5	O	=							
4	6	O	=							
5	7	O	=							
6	8	O	=							
7	9	O	=							
-	10	✓	-							
-	11	✓	-							
-	12	✓	-							
8	13	O	=							
9	14	O	=							
10	15	O	=							
11	16	O	=							
12	17	O	=							
13	18	O	=							
14	19	O	=							
-	20	✓	-							

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/453,850	EMMANUEL et al.
	Examiner	Art Unit
	JEAN F VOLTAIRE	2466

CPC						
Symbol					Type	Version
H04W	/	36	/	30	F	2013-01-01
H04W	/	36	/	08	I	2013-01-01
H04W	/	36	/	38	I	2013-01-01
H04W	/	4	/	023	I	2013-01-01
H04W	/	24	/	06	I	2013-01-01
H04W	/	24	/	08	I	2013-01-01
H04W	/	76	/	15	I	2018-02-01
H04W	/	36	/	0083	I	2013-01-01
H04W	/	84	/	12	A	2013-01-01
H04W	/	24	/	04	A	2013-01-01
H04W	/	76	/	10	A	2018-02-01

CPC Combination Sets							
Symbol					Type	Set	Ranking	Version
	/		/					

/JEAN F VOLTAIRE/ Examiner, Art Unit 2466	06 March 2019	Total Claims Allowed:	
(Assistant Examiner)	(Date)	14	
/FARUK HAMZA/ SPE, Art Unit 2466	08 March 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	3	1

U.S. Patent and Trademark Office

Part of Paper No.: 20190305

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/453,850	EMMANUEL et al.
	Examiner	Art Unit
	JEAN F VOLTAIRE	2466

INTERNATIONAL CLASSIFICATION					
CLAIMED					
H04W	/	36	/	30	

NON-CLAIMED					
	/		/		

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

/JEAN F VOLTAIRE/ Examiner, Art Unit 2466	06 March 2019	Total Claims Allowed:	
(Assistant Examiner)	(Date)	14	
/FARUK HAMZA/ SPE, Art Unit 2466	08 March 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	3	1

U.S. Patent and Trademark Office

Part of Paper No.: 20190305

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/453,850	EMMANUEL et al.
	Examiner	Art Unit
	JEAN F VOLTAIRE	2466

☐ 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	-	10	14	19										
-	2	-	11	-	20										
1	3	-	12												
2	4	8	13												
3	5	9	14												
4	6	10	15												
5	7	11	16												
6	8	12	17												
7	9	13	18												

/JEAN F VOLTAIRE/ Examiner, Art Unit 2466 (Assistant Examiner)	06 March 2019 (Date)	Total Claims Allowed: 14	
/FARUK HAMZA/ SPE, Art Unit 2466 (Primary Examiner)	08 March 2019 (Date)	O.G. Print Claim(s) 3	O.G. Print Figure 1

U.S. Patent and Trademark Office

Part of Paper No.: 20190305

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/453,850	EMMANUEL et al.
	Examiner	Art Unit
	JEAN F VOLTAIRE	2466

CPC - Searched*		
Symbol	Date	Examiner
H04W36/30 H04W36/08 H04W36/38 H04W84/12	10/13/2018	JV

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
370	332	10/13/2018	JV

* 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
Inventorship search for double patenting issue	10/13/2018	JV
Text search in East	10/14/2018	JV
Text search in 3gpp.org, ieee.org, and google.com for NPL publication	10/13/2018	JV
Update text search in East	03/06/2019	JV
Update text search in 3gpp.org, ieee.org, google.com for NPL publication	03/06/2019	JV

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	See East Interference Text Search Printout History	03/06/2019	JV

/JEAN F VOLTAIRE/ Examiner, Art Unit 2466	

a method for effecting clie... + 0 mods | 0 filters STIC

Visuals Sort: Relevance Cut-off: None De-dup: None

1 - 50 13,401,349 results Top 1500 results

1. **Client roaming in a distributed multi-band wireless networking system**

Client roaming techniques, such as those set forth in 802.11k, are extended to access point-based client roaming in a distributed multi-band wireless networking system. In particular, access points (APs) implement a series of algorithms that compare signals and make decisions on when to switch a...

CURRENT ASSIGNEES: NETGEAR INC
US20180084471 | US APPLICATIONS | 22-MAR-2018

2. **Changing topology in a wireless network**

Methods, apparatuses, and embodiments related to a technique for changing topology of a wireless network in a multi-band wireless networking system. In a wireless network with multiple wireless networking devices and one or more client devices, communications between the wireless networking devices ...

CURRENT ASSIGNEES: NETGEAR INC
US20180102981 | US APPLICATIONS | 12-APR-2018

3. **Machine learning coordinated wireless networking**

The disclosed methods and systems use artificial intelligence (AI) and machine learning (ML) technologies to model the usage and interference on each channel. For example, units of the system can measure channel interference regularly over the time of day on all radios. The interference information...

CURRENT ASSIGNEES: NETGEAR INC
US20180103408 | US APPLICATIONS | 12-APR-2018

4. **Machine learning coordinated wireless networking**

The disclosed methods and systems use artificial intelligence (AI) and machine learning (ML) technologies to model the usage and interference on each channel. For example, units of the system can measure channel interference regularly over the time of day on all radios. The interference information...

CURRENT ASSIGNEES: NETGEAR INC
WO2018071456A1 | WIPO APPLICATIONS | 19-APR-2018

5. **Machine learning coordinated wireless networking**

The disclosed methods and systems use artificial intelligence (AI) and machine learning (ML) technologies to model the usage and interference on each channel. For example, units of the system can measure channel interference regularly over the time of day on all radios. The interference information...

CURRENT ASSIGNEES: NETGEAR INC
US20180102956 | US APPLICATIONS | 12-APR-2018

6. **Managing interference in a wireless network**

Methods, apparatuses, and embodiments related to a technique for managing interference of communication of a wireless network in a multi-band wireless networking system. In an example wireless network with multiple wireless networking devices and one or more client devices, communications between...

CURRENT ASSIGNEES: NETGEAR INC
US20180103392 | US APPLICATIONS | 12-APR-2018

7. **Controlling channel usage in a wireless network**

Relevance VIEW

1 Results
1499 Results
0 Results
0 Results
0 Results

Publication Date VIEW

1996 2019

Cur Assignee by Relevance VIEW

NETGEAR INC **(92)**
INTEL CORP **(62)**
AIRTIES KABLOSUZ ILETISM... **(13)**
ARRIS ENTPR INC **(10)**
HEWLETT PACKARD ENTPR... **(80)**
HPE ARUBA **(12)**
BROADCOM CORP **(17)**

View More Visualizations

Result #1 PREV NEXT

TP Link Ex. 1004
Page 181

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	15453850
Filing Date	2017-03-08
First Named Inventor	Joseph Amalan Arul Emmanuel
Art Unit	2466
Examiner Name	Jean F. Voltaire
Attorney Docket Number	110729-8063.US01

U.S.PATENTS

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	9467929	B2	2016-10-11	SEKINE	
	2	9942709	B2	2018-04-10	SUNG	

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

U.S.PATENT APPLICATION PUBLICATIONS

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	20090116407	A1	2009-05-07	ISHII	
	2	20160192203	A1	2016-06-30	GOKTURK, et al.	
	3	20170238189	A1	2017-08-17	NOLAN, et al.	

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

FOREIGN PATENT DOCUMENTS

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]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.F.V/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15453850
	Filing Date	2017-03-08
	First Named Inventor	Joseph Amalan Arul Emmanuel
	Art Unit	2466
	Examiner Name	Jean F. Voltaire
	Attorney Docket Number	110729-8063.US01

	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

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		☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/JEAN F VOLTAIRE/	Date Considered	03/06/2019

*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. /J.F.V/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15453850
	Filing Date	2017-03-08
	First Named Inventor	Joseph Amalan Arul Emmanuel
	Art Unit	2466
	Examiner Name	Jean F. Voltaire
	Attorney Docket Number	110729-8063.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	~	Date (YYYY-MM-DD)	2019-02-26
Name/Print	Michael A. Glenn	Registration Number	30176

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. /J.F.V/

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 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.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.F.V/

The method involves interc... + 0 mods | 0 filters

Visuals | Sort: Relevance | Cut-off: None | De-dup: None

17 **Distributed multi-band wireless networking system**

Disclosed is a dedicated control channel for a WLAN network. A number of access points are networked together and communicate data necessary to propagate the WLAN over a backhaul channel, however a dedicated radio on each access point is used to communicate control information between the access...

CURRENT ASSIGNEES: NETGEAR INC
US20180261081 | US APPLICATIONS | 13-SEP-2018

18 **Wireless router or residential gateway capable of distinguishing power-sensitive wireless sensors and providing separate treatment thereto**

Techniques are disclosed for a wireless router or residential gateway to distinguish power-sensitive wireless sensors and provide separate treatments thereto for low power consumption connections. In some embodiments, a network device includes a wireless network circuit, and control circuitry...

CURRENT ASSIGNEES: NETGEAR INC
TW201528856A | TAIWAN APPLICATIONS | 16-JUL-2015

19 **Wireless network with awareness of human presence**

Network devices (e.g., a modem, router, wireless user device, laptop, personal digital assistant or other similar wireless network devices) can be configured to monitor and detect a biological presence. In response to determining a biological presence (e.g., a human being or other similar being), a...

CURRENT ASSIGNEES: INTEL CORP
US20190005317 | US APPLICATIONS | 03-JAN-2019

20 **System and method for management of a shared frequency band using client--specific management techniques**

A system and method are provided for managing communication with a plurality of wireless client devices operating in a radio frequency band shared by other types of devices, comprising a step of controlling at least one parameter associated with radio communication with each of the plurality of...

CURRENT ASSIGNEES: CISCO TECH INC
US20040047324 | US APPLICATIONS | 11-MAR-2004

21 **Changing topology in wireless network**

Relates to a multi- band wireless network system changed in wireless network topology of the technology method and device for example. Comprises a wireless network device and one or more client device in a wireless network wireless network device the communication between the return channel...

CURRENT ASSIGNEES: NETGEAR INC
CN107920369A | CHINA APPLICATIONS | 17-APR-2018

22 **Determining link conditions of a client lan/Wan from measurement point to client devices and application servers of interest**

Approaches for determining link conditions within a client network are provided. Network protocol statistics are recorded for network connections over the client network, wherein each connection provides data communications between a client terminal node and a different respective client device, and...

CURRENT ASSIGNEES: HUGHES NETWORK SYS LLC
US20160212031 | US APPLICATIONS | 21-JUL-2016

Top 1500 results

Relevance VIEW

0 Results
343 Results
1152 Results
0 Results
0 Results

Publication Date VIEW

1996 2019

Cur Assignee by Relevance VIEW

NETGEAR INC (110)
WIRELESS VALLEY COMM I... (7)
CISCO TECH INC (56)
INTEL CORP (27)
HUGHES NETWORK SYS LLC (6)
BROADCOM CORP (20)
QUALCOMM INC (89)

View More Visualizations

Result #1 PREV NEXT

TP Link Ex. 1004
Page 186

EAST Search History

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	5	(H04W36/30 H04W36/08 H04W36/38 H04W84/12).CPC. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT	OR	OFF	2019/03/07 10:40
L13	4	wireless networking device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT	ADJ	OFF	2019/03/07 11:37
L16	1	(multi-band or multiband or dual-band or dual-band) SAME wireless networking device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT	ADJ	OFF	2019/03/07 11:38
L17	2	(multi-band or multiband or dual-band or dual band) AND wireless device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT	ADJ	OFF	2019/03/07 11:39
S137	9	Roam$3 AND (received signal strength indicator OR(RSSI)) and downlink power near5 uplink power	US-PGPUB; USPAT	ADJ	OFF	2019/03/06 20:44
S138	1	candidate wireless networking device AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT	ADJ	OFF	2019/03/06 20:45
S139	2	roam$3 with multi-band wireless device$1	US-PGPUB; USPAT	ADJ	OFF	2019/03/06 20:45
S140	10	370/329-332.ccls. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT	OR	OFF	2019/03/06 20:52
S141	1	370/332.ccls. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT	OR	OFF	2019/03/06 20:55
S143	9	370/$.ccls. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	USPAT	OR	OFF	2019/03/06 22:26

3/ 7/ 2019 11:44:33 AM
C:\ Users\ jvoltaire\ Documents\ EAST\ Workspaces\ 15453850.wsp

The multi-band wireless ne... + 0 mods | 0 filters

Visuals Sort: Relevance Cut-off: None De-dup: None

of a wireless network in a multi-band wireless networking system. In an example wireless network with multiple wireless networking devices and one or more client devices, communications between...

CURRENT ASSIGNEES: NETGEAR INC
US20180103392 | US APPLICATIONS | 12-APR-2018

17. **Methods, devices, and systems for implementing centralized hybrid wireless self-organizing networks**

A telecommunication device operable in a system containing one or more servers, the device being a client device in the system. The device providing a client configuration state for the client device to the one or more servers, A first subnetwork configuration from one or more servers, the first...

CURRENT ASSIGNEES: TRINITY MOBILE NETWORKS INC
KR20170029540A | KOREA APPLICATIONS | 15-MAR-2017

18. **Indoor positioning and tracking using a multi-band wireless networking system**

Systems and methods are introduced for indoor positioning and tracking of devices and objects using a multi-band wireless networking system. In an embodiment, multiple wireless networking devices are interconnected via a dedicated wireless backhaul to collectively form a single multi-band wireless...

CURRENT ASSIGNEES: NETGEAR INC
US10192416 | US PATENTS | 29-JAN-2019

19. **Optimization of distributed Wi-Fi networks**

A distributed Wi-Fi system includes a first Wi-Fi access point communicatively coupled to a modem/router for connectivity to the Internet and to a cloud controller via the Internet; and at least one additional Wi-Fi access point with wireless backhaul connections to the modem/router via the first...

CURRENT ASSIGNEES: PLUME [+1]
US20180324607 | US APPLICATIONS | 08-NOV-2018

20. **Indoor positioning and tracking using a multi-band wireless networking system**

Systems and methods are introduced for indoor positioning and tracking of devices and objects using a multi-band wireless networking system. In an embodiment, multiple wireless networking devices are interconnected via a dedicated wireless backhaul to collectively form a single multi-band wireless...

CURRENT ASSIGNEES: NETGEAR INC
US20180103351 | US APPLICATIONS | 12-APR-2018

21. **Optimization of distributed wi-fi networks estimation and learning**

Systems and methods for estimation and learning for optimization of a distributed Wi-Fi network performed by a cloud controller include obtaining data associated with operation of the distributed Wi-Fi network; processing the obtained data; determining one or more of forecasts, predictions, trends,...

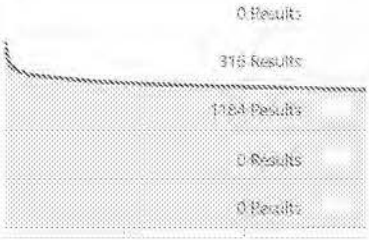
CURRENT ASSIGNEES: PLUME DESIGN INC
US20170272310 | US APPLICATIONS | 21-SEP-2017

22. **Optimization of distributed Wi-Fi networks**

Systems and methods for optimization of access points in a Wi-Fi system by a cloud controller include receiving inputs related to operation of the Wi-Fi system; performing an optimization based on the inputs to maximize an objective function which maximizes excess capacity for a load ratio...

Top 1500 results

Relevance VIEW



Publication Date VIEW



Cur Assignee by Relevance VIEW

- NETGEAR INC (34)
- PLUME DESIGN INC (24)
- TRINITY MOBILE NETWORK... (5)
- PLUME (2)
- DYNAMIC MESH NETWOR... (4)
- QUALCOMM INC (155)
- ARROWSPAN INC (6)

View More Visualizations

Result #1 PREV NEXT

TP Link Ex. 1004
Page 188

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6	(H04W36/30 H04W36/08 H04W36/38 H04W84/12).CPC. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/07 10:40
L3	1	"20180084471"	DERWENT	OR	OFF	2019/03/07 11:25
L4	22	wireless networking devices SAME (multi-band OR multiband)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:32
L5	22	wireless networking device$1 SAME (multi-band OR multiband)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:32
L6	111	wireless device$1 SAME (multi-band OR multiband) AND roam$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:33
L7	61	wireless networking device$1 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:35
L8	2662	wireless device$1 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:35
L9	342	wireless device$1 SAME Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	OFF	2019/03/07 11:35

			IBM_TDB			
L10	60	wireless device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:35
L11	4	wireless networking device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:36
L12	1	(multi-band or multiband or dual-band or dual-band) SAME wireless networking device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:37
L15	2	(multi-band or multiband or dual-band or dual-band) AND wireless device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:38
L18	2	(multi-band or multiband or dual-band or dual band) AND wireless device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:39
L19	2	(multi-band or multiband or dual-band or dual band$1) AND wireless device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:39
L20	1	(multi-band or multiband or dual-band) SAME wireless networking device$1 SAME Roam$3 SAME (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:40
L21	175	networking device$1 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/07 11:40
L22	932	"20180084471" "20170135022" "20190007947" "20170134255" "20170135018" "20170135145" "20180102961" "20170272317"	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2019/03/07 11:42

		"20180103408" "20180102956" "20180103404" "20180103392" "10192416" "20180324607" "20180103351" "20170272310" "10051494" "20170272963" "20170272977" "8923186" "20170272273" "20150223160" "20100260146" "20170272965" "8451752" "20170366983" "10164858" "20180054772" "9363651" "20160302079" "20170331670" "20160302096" "20170331577" "20090252088" "20160204951" "10178578" "8520559" "20170273122" "20160006837" "20170272507" "9735972" "20190037418" "10142444" "20170272313" "20180199218" "20050232179" "20130039168" "20080304831" "20170273013" "8989155" "20170150299" "9769599" "20060083186" "9642024" "20150244430" "20150373618" "9893774" "20080025208" "7366120" "9474009" "20130207841" "9860939" "20170099658" "20080045234" "8502733" "9179240" "20130293419" "20150303950" "20150372738" "20100177703" "8121053" "20130336216" "20180279391" "20140376656" "8520691" "20140328423" "8976733" "20180007502" "20140376657" "20180103505" "20090232026" "20170041813" "20150270882" "9197297" "9325398" "10051455" "10056964" "10129888" "9209871" "20170272928" "20160309345" "20190045497" "20170127399" "20170338883" "9713157" "20130142059" "20190068275" "20170318571" "9967757" "20160285532" "9179495" "20170311249" "9106286" "20160204914" "20170206238" "20180160473" "20170085407" "20150271004" "20170332304" "9577733" "20180192349" "20180343567" "9654323" "8363744" "9722842" "20160134341" "9820209" "10117172" "10200945" "20160134455" "20140241296"	EPO; JPO; DERWENT; IBM_TDB			
L23	778	"20180084471" "20170135022" "20190007947" "20170134255" "20170135018" "20170135145" "20180102961" "20170272317" "20180103408" "20180102956" "20180103404" "20180103392" "10192416" "20180324607" "20180103351" "20170272310" "10051494" "20170272963" "20170272977" "8923186" "20170272273" "20150223160" "20100260146" "20170272965" "8451752" "20170366983" "10164858"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/07 11:42

		"20180054772" "9363651" "20150223160" "20100260146" "20170272965" "8451752" "20170366983" "10164858" "20180054772" "9363651" "20160302079" "20170331670" "20160302096" "20170331577" "20090252088" "20160204951" "10178578" "8520559" "20170273122" "20160006837" "20170272507" "9735972" "20190037418" "10142444" "20170272313" "20180199218" "20050232179" "20130039168" "20080304831" "20170273013" "8989155" "20170150299" "9769599" "20060083186" "9642024" "20150244430" "20150373618" "9893774" "20080025208" "7366120" "9474009" "20130207841" "9860939" "20170099658" "20080045234" "8502733" "9179240" "20130293419" "20150303950" "20150372738" "20100177703" "8121053" "20130336216" "20180279391" "20140376656" "8520691" "20140328423" "8976733" "20180007502" "20140376657" "20180103505" "20090232026" "20170041813" "20150270882" "9197297" "9325398" "10051455" "10056964" "10129888" "9209871" "20170272928" "20160309345" "20190045497" "20170127399" "20170338883" "9713157" "20130142059" "20190068275" "20170318571" "9967757" "20160285532" "9179495" "20170311249" "9106286"				
S1	1	"15453850"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/13 16:37
S2	5722	370/332.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/13 16:39
S3	111757	(H04W36/30 H04W36/08 H04W36/38 H04W84/12).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/13 16:40
S4	33	"7155167"	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/10/14 12:45

			EPO; JPO; DERWENT; IBM_TDB			
S5	37	"7502354"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:45
S6	42	"7567822"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:46
S7	7	"8248948"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:46
S8	6	"20020042274"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:48
S9	4	"20050048963"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:49
S10	3	"20070206528"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:49
S11	3	"20080247317"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:50
S12	15	"20090067369"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:50
S13	6	"20090135738"	US-PGPUB; USPAT;	OR	OFF	2018/10/14 12:50

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S14	2	"20100157888"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:50
S15	3	"20100231473"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:51
S16	2	"20100246416"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:51
S17	2	"20100291931"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:53
S18	2	"20110250926"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:53
S19	3	"20110299422"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:54
S20	8	"20120129517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:56
S21	2	"20140254400"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:57

S22	5	"20150103685"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:57
S23	3	"20150215791"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:58
S24	5	"20160029384"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:58
S25	4	"20160066249"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:59
S26	5	"20160094946"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:59
S27	3	"20160227544"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 12:59
S28	3	"20160269097"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:00
S29	2	"20160308755"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:00
S30	5	"20170006431"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/10/14 13:01

			DERWENT; IBM_TDB			
S31	4	"20170118705"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:01
S32	54	"9001767"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:02
S33	6	"9179495"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:02
S34	11	"9832796"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:03
S35	2	"20070280453"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:03
S36	6	"20080025208"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:03
S37	6	"20080080414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:04
S38	6	"20090046655"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:04
S39	4	"20090135794"	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/10/14 13:05

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S40	2	"20090221238"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:05
S41	3	"20090252127"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:05
S42	6	"20100118830"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:05
S43	3	"20100260146"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:06
S44	10	"20110081903"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:07
S45	2	"20110286404"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:07
S46	9	"20120020319"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:07
S47	3	"20120224484"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:08
S48	3	"20120225646"	US-PGPUB;	OR	OFF	2018/10/14

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:08
S49	2	"20120294200"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:09
S50	2	"20130194948"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:09
S51	6	"20140233412"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:09
S52	9	"20140270306"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:09
S53	5	"20150029067"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:10
S54	7	"20150049616"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:11
S55	5	"20150092681"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:11
S56	3	"20150264614"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2018/10/14 13:12

			IBM_TDB			
S57	3	"20150334750"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:12
S58	7	"20160007273"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:13
S59	4	"20160142163"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:13
S60	2	"20160212755"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:14
S61	2	"20160286374"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:14
S62	2	"20160366632"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:14
S63	3	"20170048913"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:14
S64	3	"20170070919"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:15
S65	4	"20170125920"	US-PGPUB; USPAT; USOCR; FPRS;	OR	OFF	2018/10/14 13:15

			EPO; JPO; DERWENT; IBM_TDB			
S66	4	"20170127295"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:16
S67	3	"20170127325"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:16
S68	2	"20170164260"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:16
S69	2	"20170215091"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:17
S70	2	"20170251410"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:17
S71	2	"20170325243"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 13:17
S72	1	"15632117"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 17:35
S73	2	"20170164323"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/14 19:26
S74	7	"15529897"	US-PGPUB; USPAT;	OR	OFF	2018/10/14 21:11

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S75	2151	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337" "20180183466" "7228355" "20050170825" "20180183467" "20070008927" "20170135022" "8923754" "8600295" "20170135018" "9048897" "20040047324" "8254986" RE44606 "9042333" "20170134255" "20160157109" "8918049" "20080310371" "20100120361" "9136931" "8611812" "20180027365" "20150023202" "7463890" "9913075" "20140241296" "20140369273" "20130083662" "20150117322" "20120034943" "20130088963" "7983613" "20170359732" "20160242040" "20140059218" "20140247895" "9277591" "8320949" "9247583" "20130070809" "20130265890" "20170135145" "20160212031" "20110255449" "20180278697" "20180035244" "20160037384" "9801003" "20150223160" "20160119838" "20160135209" "9838827" "9326313" "20030153338" "20030210672" "9241370" "20100290352" "20140369271" "20060019679" "9723491" "10057784" "20170288727" "8331854" "8953474" "20140370826" "9232566" "20180109907" "9655038" "20170251429" "8462695" "9877142" "20150215950" "20070253339" "20170367102" "20040054774" "20160037360" "20170006409"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:28

		"9451626" "20160044673" "20040078566" "20160135198" "9924296" "9750022" "7113497" "9775164" "8019352" "9265090" "20140369272" "20180020317" "20150312891" "7653392" "20040076134" "20070104215" "20170374602" "20120300746" "20080107090" "20180206184" "7197569" "9137663" "7941149" "20050198199" "20050170824" "20040078598" "7382756" "20050169227" "7293110" "20060195551" "20080025282" "20150271779" "9307517" "7881269" "20070232307" "20170273013" "20050157677" "20050073979" "9668088" "7440573" "20170265033" "7509437" "6985931" "7188185" "7248858" "7779071" "8838752" "20170311259" "20150223192" "9565610" "20060187873" "20160037458" "20050195842" "7805140" "7581030" "20050169228" "10091730" "7035932" "20090252097" "9706491" "7032009" "20170195856" "9258765" "7631105" "7822865" "9955432" "20070260710" "20050195841" "20130188625" "20070260709" "9820105" "20150119035" "20180213412" "9642167" "20090119417"				
S76	1551	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337" "20180183466" "7228355" "20050170825" "20180183467" "20070008927" "20170135022" "8923754" "8600295" "20170135018" "9048897" "20040047324" "8254986" RE44606 "9042333" "20170134255"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:29

		"20160157109" "8918049" "20080310371" "20100120361" "9136931" "8611812" "20180027365" "20150023202" "7463890" "9913075" "20140241296" "20140369273" "20130083662" "20150117322" "20120034943" "20130088963" "7983613" "20170359732" "20160242040" "20140059218" "20140247895" "9277591" "8320949" "9247583" "20130070809" "20130265890" "20170135145" "20160212031" "20110255449" "20180278697" "20180035244" "20160037384" "9801003" "20150223160" "20160119838" "20160135209" "9838827" "9326313" "20030153338" "20030210672" "9241370" "20100290352" "20140369271" "20060019679" "9723491" "10057784" "20170288727" "8331854" "8953474" "20140370826" "9232566" "20180109907" "9655038" "20170251429" "8462695" "9877142" "20150215950" "20070253339" "20170367102" "20040054774" "20160037360" "20170006409" "9451626" "20160044673" "20040078566" "20160135198" "9924296" "9750022" "7113497" "9775164" "8019352" "9265090" "20140369272" "20180020317" "20150312891" "7653392"				
S77	708	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337" "20180183466" "7228355" "20050170825" "20180183467" "20070008927" "20170135022" "8923754" "8600295" "20170135018" "9048897" "20040047324" "8254986"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:29

		RE44606 "9042333" "20170134255" "20160157109" "8918049" "20080310371"				
S78	660	"20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337" "20180183466" "7228355" "20050170825" "20180183467" "20070008927" "20170135022" "8923754" "8600295" "20170135018" "9048897" "20040047324" "8254986"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:29
S79	493	"20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "9402199" "20170280451" "8923186" "9516540" "20050042999" "10104660" "9363651" "9948326" "7408907" "20160330651" "20160277972" "20150071164" "9936422" "20180183468" "20150063157" "9722690" "9667337"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/10/28 09:31
S80	1	"15453850"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:27
S81	452	((Emmanuel)near3(Joseph Amalan Arul)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:28
S82	452	((Emmanuel)near3(Joseph)).INV.	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/11/13 10:28

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S83	452	((Emmanuel)near3(Joseph Amalan)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:29
S84	243	((Amini)near3(Peiman)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:29
S85	1291	"20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651" "9948326" "20160330651" "7408907" "20150071164" "20160277972" "20150063157" "20180183468" "9936422" "9722690" "9667337" "20180183466" "7228355" "20070008927" "20180183467" "20050170825" "8923754" "20170135022" "8600295" "20170135018" "8254986" "9048897" "20040047324" "8918049" "9042333" "20160157109" "20170134255" RE44606 "8611812" "20100120361" "20180027365" "20080310371" "20150023202" "9136931" "20140241296" "9913075" "7463890" "20130083662" "20130088963" "7983613" "20140369273" "20150117322" "20140247895" "20120034943" "20160242040" "20170359732" "20140059218" "20130070809" "9277591" "9247583" "8320949" "20130265890" "20170135145" "20180278697" "20110255449" "20160037384" "20150223160" "20160212031" "20180035244" "20160135209" "20030153338" "9801003" "20160119838" "9838827" "20060019679"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:33

S86	735	"20180084471" "20180102961" "20180103392" "20180103351" "20180103404" "20180310221" "20180103408" "20180102956" "20180310301" "20180261061" "20120243474" "9432848" "20180102883" "9979517" "20110235591" "8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651" "9948326" "20160330651" "7408907" "20150071164" "20160277972" "20150063157" "20180183468" "9936422" "9722690" "9667337" "20180183466" "7228355" "20070008927" "20180183467" "20050170825" "8923754" "20170135022" "8600295" "20170135018" "8254986" "9048897" "20040047324" "8918049" "9042333" "20160157109" "20170134255" RE44606	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:33
S87	495	"8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377" "20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651" "9948326" "20160330651" "7408907" "20150071164" "20160277972" "20150063157"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:34
S88	485	"8699418" "20180102918" "20060045113" "20140211716" "20170041108" "9473285" "20120275320" "10020926" "8687512" "20180115652" "20180132159" "10117172" "20180132174" "20180309570" "10104608" "20150103730" "20160337230" "9439099" "9681444" "20150103663" "20150341932" "20150098377"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 10:34

		"20150105121" "20150103740" "20130070810" "7676194" "9204385" "20170085278" "9923581" "20050042999" "20170280451" "8923186" "9402199" "10104660" "9516540" "9363651" "9948326" "20160330651" "7408907"				
S89	3	"20170164323"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 11:25
S90	2	roam$3 with multi-band wireless device$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 12:39
S92	8	roam$3 with multi-band near3 device$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 12:42
S93	2	switch SAME multi-band wireless network independently	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:23
S94	3	switch SAME multi-band wireless network	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:23
S95	2	switch SAME multi-band network	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:24
S97	5073	Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:46
S98	9	Roam$3 AND (received signal strength indicator OR(RSSI)) and downlink power near5 uplink power	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	ADJ	OFF	2018/11/13 13:47

			DERWENT; IBM_TDB			
S99	1	candidate wireless networking device AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 13:48
S100	21803	Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 13:50
S101	6504	Roam$3 AND (handover hand-over handoff hand-off)and independently	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 13:50
S103	87	switch SAME multi-band SAME (individually freely independently)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/11/13 13:53
S104	1	"802.11v" BSS transition management (BTM)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 14:34
S105	12	"802.11v" BSS transition management	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2018/11/13 14:34
S106	3	"9467929"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:33
S107	9	"9942709"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:33
S108	6	"20090116407"	US-PGPUB; USPAT; USOCR;	OR	OFF	2019/03/06 20:33

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S109	2	"20160192203"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:34
S110	2	"20170238189"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:34
S111	1610	"20180084471" "20180102961" "20180103408" "20180102956" "20180103392" "20180103404" "20190007947" "20170134255" "20170135018" "20170135022" "20170135145" "20190005317" "20170374602" "20180103351" "20190021086" "20180352493" "10192416" "20140211716" "20170041108" "9681444" "20150341932" "20190007944" "20150098377" "20160119838" "20170251429" "9204385" "20170280451" "20120275320" "10104660" "9473285" "10212653" "10020926" "9655038" "8687512" "20150009836" "20180261061" "20180102883" "20060019679" "9979517" "20190037418" "20160212031" "8019352" "8964549" "20180359698" "20140059218" "20190007842" "20160157109" "20160242040" "20170359732" "20180027365" "20180310221" "9913075" "20120099430" "20140369273" "9801003" "20180035244" "20160135209" "9838827" "9326313" "9277591" "9247583" "20140369271" "9232566" "20180359043" "9241370" "20140370826" "20180102918" "9723491" "10057784" "20180109907" "20160037360" "20170006409" "9877142" "20160135198" "20180020317" "9924296" "9451626" "10200835" "20140369272" "9265090" "20080253314" "20110299422" "20190053013" "20140334473" "9325540" "20190058999" "8929328" "8005030" "8427942" "8411629" "20180152380" "20140307821" "20170367102" "20150215950" "20160037458" "20180352473" "9900251" "20180176071" "7295119" "20180124694" "20080186917"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:42

		"20120300746" "20170238199" "20050013316" "9775164" "20140036893" "20150195845" "9955432" "20130265890" "20070232307" "7801038" "20170295586" "20150117324" "9565610" "8953474" "20120058728" "9124547" "7408907" "20130259005" "20150079917" "20060002350" "20170272317" "20120224483" "7450552" "9814055" "20040236547" "9356679" "20180310301" "20140086081" "20180213042" "20140313908" "20130100807" "9706415" "20130288624" "10050762" "20160037384" "20150271834" "8897731" "9002277" "20160112520" "9137727" "9197528" "20060045113" "20150257024" "20120163309" "9807778" "20170181178" "9143916" "9083568" "20100330991" "20180176845" "20120224484" "9661441" "9077655" "20160007278"				
S112	1190	"10192416" "20140211716" "20170041108" "9681444" "20150341932" "20190007944" "20150098377" "20160119838" "20170251429" "9204385" "20170280451" "20120275320" "10104660" "9473285" "10212653" "10020926" "9655038" "8687512" "20150009836" "20180261061" "20180102883" "20060019679" "9979517" "20190037418" "20160212031" "8019352" "8964549" "20180359698" "20140059218" "20190007842" "20160157109" "20160242040" "20170359732" "20180027365" "20180310221" "9913075" "20120099430" "20140369273" "9801003" "20180035244" "20160135209" "9838827" "9326313" "9277591" "9247583" "20140369271" "9232566" "20180359043" "9241370" "20140370826" "20180102918" "9723491" "10057784" "20180109907" "20160037360" "20170006409" "9877142" "20160135198" "20180020317" "9924296" "9451626" "10200835" "20140369272" "9265090" "20080253314" "20110299422" "20190053013" "20140334473" "9325540" "20190058999" "8929328" "8005030" "8427942" "8411629" "20180152380" "20140307821" "20170367102" "20150215950" "20160037458" "20180352473" "9900251" "20180176071" "7295119" "20180124694" "20080186917" "20120300746" "20170238199" "20050013316" "9775164" "20140036893" "20150195845" "9955432" "20130265890"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:42

		"20070232307" "7801038" "20170295586"				
S113	1060	"20140059218" "20190007842" "20160157109" "20160242040" "20170359732" "20180027365" "20180310221" "9913075" "20120099430" "20140369273" "9801003" "20180035244" "20160135209" "9838827" "9326313" "9277591" "9247583" "20140369271" "9232566" "20180359043" "9241370" "20140370826" "20180102918" "9723491" "10057784" "20180109907" "20160037360" "20170006409" "9877142" "20160135198" "20180020317" "9924296" "9451626" "10200835" "20140369272" "9265090" "20080253314" "20110299422" "20190053013" "20140334473" "9325540" "20190058999" "8929328" "8005030" "8427942" "8411629" "20180152380" "20140307821" "20170367102" "20150215950" "20160037458" "20180352473" "9900251" "20180176071" "7295119" "20180124694" "20080186917" "20120300746" "20170238199" "20050013316" "9775164" "20140036893" "20150195845" "9955432" "20130265890" "20070232307" "7801038" "20170295586" "20150117324" "9565610" "8953474" "20120058728" "9124547" "7408907" "20130259005" "20150079917"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:43
S114	257	"20060002350" "20170272317" "20120224483" "7450552" "9814055" "20040236547" "9356679" "20180310301" "20140086081" "20180213042" "20140313908" "20130100807" "9706415" "20130288624" "10050762" "20160037384" "20150271834" "8897731" "9002277" "20160112520" "9137727" "9197528" "20060045113" "20150257024" "20120163309" "9807778" "20170181178" "9143916" "9083568" "20100330991" "20180176845" "20120224484" "9661441" "9077655"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:43
S115	281	"20140059218" "20190007842" "20160157109" "20160242040" "20170359732" "20180027365" "20180310221" "9913075" "20120099430" "20140369273" "9801003" "20180035244" "20160135209" "9838827" "9326313" "9277591" "9247583" "20140369271" "9232566" "20180359043" "9241370" "20140370826" "20180102918" "9723491" "10057784"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:44
S116	90	switch SAME multi-band SAME (individually freely independently)	US-PGPUB; USPAT;	OR	OFF	2019/03/06 20:46

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S117	9	Roam$3 AND (received signal strength indicator OR(RSSI)) and downlink power near5 uplink power	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/06 20:47
S118	2	uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)and independently	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:51
S119	37	uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:51
S120	15	370/$.ccls. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:51
S121	1	370/332.ccls. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:52
S122	12	370/329-332.ccls. AND uplink near3(RSSI signal) same Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 20:52
S123	282	370/329-332.ccls. AND uplink near3(signal OR RSSI OR(received signal strength indicator)) AND roam$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/06 20:54
S124	2	"20170374602"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 21:38

S125	3	"20140211716"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 21:39
S126	6	"20170041108"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 21:40
S127	3	"20170251429"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 21:41
S128	45	S111 and Roam$3 AND (handover hand-over handoff hand-off)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/03/06 22:23
S129	109	S111 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/06 22:24
S130	72	S112 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/06 22:24
S131	48	S113 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/06 22:24
S132	18	S114 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/06 22:24
S133	17	S115 AND Roam$3 AND (received signal strength indicator OR(RSSI))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	ADJ	OFF	2019/03/06 22:24

			DERWENT; IBM_TDB			
S134	6	S111 AND Roam$3 AND (received signal strength indicator OR(RSSI)) and downlink power near5 uplink power	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2019/03/06 22:25

3/ 7/ 2019 11:44:08 AM
C:\ Users\ jvoltaire\ Documents\ EAST\ Workspaces\ 15453850.wsp

Bibliographic Data

Application No: 15/453,850

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /JEAN F VOLTAIRE/ Examiner's Signature | Initials

Title: CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
03/08/2017	370	2466	110729-8063.US01
RULE			

APPLICANTS

NETGEAR, INC., San Jose, CA,

INVENTORS

Joseph Amalan Arul EMMANUEL Cupertino, CA, UNITED STATES

Peiman Amini Mountain View, CA, UNITED STATES

CONTINUING DATA

This application has PRO of 62406325 10/10/2016

This application is a CIP of 15287706 10/06/2016

This application is a CIP of 15287711 10/06/2016

This application is a CIP of 15271912 09/21/2016 PAT 9967884

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

03/15/2017

STATE OR COUNTRY

UNITED STATES

ADDRESS

PERKINS COIE LLP - PAO General

P.O. BOX 1247

SEATTLE, WA 98111-1247

UNITED STATES

FILING FEE RECEIVED

$1,740

To: patentprocurement@perkinscoie.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 22918

Mar 13, 2019 03:33:26 AM

Dear PAIR Customer:

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

The following USPTO patent application(s) associated with your Customer Number, 22918 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
15453850	NOA	03/13/2019	110729-8063.US01
	892	03/13/2019	110729-8063.US01
	1449	03/13/2019	110729-8063.US01

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	:	Joseph Amalan Arul EMMANUEL
Serial No.	:	15/453,850
Filed	:	March 8, 2017
Art Unit	:	2466
Confirmation Number	:	5714
Examiner	:	Jean F. Voltaire
Title	:	CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM
Attorney Docket No.	:	110729-8063.US01

May 30, 2019

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

Dear Commissioner:

In the Notice of Allowance, mailed March 13, 2019, the Examiner provided Reasons for Allowance (hereinafter referred to as "Reasons"). Applicant believes the Reasons, to the extent understood, may be misconstrued and, as such, are incomplete. Applicant submits that indeed, the claims of the instant application, individually or in combination with other claims (via dependency), describe the patentable subject matter of Applicant's invention(s). Accordingly, the Reasons in no way bind or affect the interpretation, infringement, validity and/or enforceability of any claim(s) or patent(s) resulting from, or relating to this application.

Applicant does not believe any fees are due with this submission. However, the commissioner is hereby authorized to charge any fees due or credit any overpayments to Deposit Account 500665 (Order No. 110729-8063.US01).

Respectfully submitted,
/Michael A. Glenn/

Michael A. Glenn
Reg. No. 30,176

Customer No. 22918

TP Link Ex. 1004
Page 218

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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 03/13/2019
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.

Certificate of Mailing or Transmission

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

Christine Dunn	(Typed or printed name)
/Christine Dunn/	(Signature)
05/31/2019	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/453,850	03/08/2017	Joseph Amalan Arul EMMANUEL	110729-8063.US01	5714

TITLE OF INVENTION: CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM

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	06/13/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
VOLTAIRE, JEAN F	2466	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 03-09 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 Perkins Coie LLP
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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: NETGEAR, INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): SAN JOSE, CALIFORNIA

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

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

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

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 500665

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 /Michael A. Glenn/ Date 2019-05-30

Typed or printed name Michael A. Glenn Registration No. 30,176

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
TP Link Ex. 1004
Page 219

Electronic Patent Application Fee Transmittal

Application Number:	15453850
Filing Date:	08-Mar-2017
Title of Invention:	CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM
First Named Inventor/Applicant Name:	Joseph Amalan Arul EMMANUEL
Filer:	Michael Glenn/Christine Ortt
Attorney Docket Number:	110729-8063.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:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	1000

Electronic Acknowledgement Receipt

EFS ID:	36173328
Application Number:	15453850
International Application Number:	
Confirmation Number:	5714
Title of Invention:	CLIENT ROAMING IN A DISTRIBUTED MULTI-BAND WIRELESS NETWORKING SYSTEM
First Named Inventor/Applicant Name:	Joseph Amalan Arul EMMANUEL
Customer Number:	22918
Filer:	Michael Glenn/Christine Ortt
Filer Authorized By:	Michael Glenn
Attorney Docket Number:	110729-8063.US01
Receipt Date:	31-MAY-2019
Filing Date:	08-MAR-2017
Time Stamp:	17:36:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1000
RAM confirmation Number	060319INTEFSW17374500
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		Issue_Fee_110729-8063US01.pdf	1601455 c16add160ddb525096a39f5f8dfb927619d ad3c4	yes	3
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Post Allowance Communication - Incoming		2	3	
	Issue Fee Payment (PTO-85B)		1	1	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30701 f7ab6e18d564bd1c904ce1f29bb4fcdfd396372f	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1632156		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

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.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/453,850	07/16/2019	10356681	110729-8063.US01	5714

22918 7590 06/26/2019

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

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 202 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

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 Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

NETGEAR, INC., San Jose, CA
Joseph Amalan Arul EMMANUEL, Cupertino, CA;
Peiman Amini, Mountain View, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

To: patentprocurement@perkinscoie.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 22918

Jun 27, 2019 04:07:27 AM

Dear PAIR Customer:

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

The following USPTO patent application(s) associated with your Customer Number, 22918 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
15453850	ISSUE.NTF	06/26/2019	110729-8063.US01

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM