PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4738229

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AVAGO TECHNOLOGIES GENERAL IP (SINGAPORE) PTE. LTD.	12/08/2017
BROADCOM CORPORATION	12/08/2017

RECEIVING PARTY DATA

Name:	BELL NORTHERN RESEARCH, LLC
Street Address:	401 N. MICHIGAN AVE.
Internal Address:	SUITE 1600
City:	CHICAGO
State/Country:	ILLINOIS
Postal Code:	60611

PROPERTY NUMBERS Total: 131

Property Type	Number
Patent Number:	7996047
Patent Number:	7412263
Patent Number:	7702363
Patent Number:	7945284
Patent Number:	7945285
Patent Number:	8200280
Patent Number:	7162212
Patent Number:	8204554
Patent Number:	7319889
Patent Number:	7113811
Patent Number:	8483780
Patent Number:	7499722
Patent Number:	8140128
Patent Number:	7039435
Patent Number:	8532594
Patent Number:	8078197
Patent Number:	6894239
Patent Number:	6208846

Property Type	Number
Patent Number:	6925489
Patent Number:	6584203
Patent Number:	7123727
Patent Number:	7570978
Patent Number:	7782375
Patent Number:	6549792
Patent Number:	6363257
Patent Number:	7280816
Patent Number:	7751541
Patent Number:	7610495
Patent Number:	7404146
Patent Number:	6941156
Patent Number:	6696941
Patent Number:	6118881
Patent Number:	7738583
Patent Number:	7502408
Patent Number:	8184679
Patent Number:	8085871
Patent Number:	7738584
Patent Number:	8416862
Patent Number:	8345732
Patent Number:	8743994
Patent Number:	7894852
Patent Number:	7242961
Patent Number:	7693551
Patent Number:	7813374
Patent Number:	7277417
Patent Number:	8553666
Patent Number:	9025582
Patent Number:	8243701
Patent Number:	7317735
Patent Number:	8306142
Patent Number:	7680205
Patent Number:	8233557
Patent Number:	7664200
Patent Number:	7957450
Patent Number:	8437419
Patent Number:	7564914

Property Type	Number
Patent Number:	8588283
Patent Number:	7693234
Patent Number:	7646703
Patent Number:	7990842
Patent Number:	8477594
Patent Number:	7586887
Patent Number:	9264275
Patent Number:	7912024
Patent Number:	8599755
Patent Number:	7515581
Patent Number:	8396072
Patent Number:	8792432
Patent Number:	7949012
Patent Number:	8050237
Patent Number:	7751466
Patent Number:	9236901
Patent Number:	9143364
Patent Number:	9374769
Patent Number:	9197175
Patent Number:	7421250
Patent Number:	6980774
Patent Number:	9277499
Patent Number:	8493900
Patent Number:	8218517
Patent Number:	8767700
Patent Number:	7702050
Patent Number:	8300747
Patent Number:	8693559
Patent Number:	9020020
Patent Number:	7680027
Patent Number:	7684522
Patent Number:	8151158
Patent Number:	8917704
Patent Number:	9118442
Patent Number:	8284819
Patent Number:	8503506
Patent Number:	8681730
Application Number:	13472780

Property Type	Number
Application Number:	11567086
Application Number:	13292170
Application Number:	60306271
Application Number:	60525231
Application Number:	60673451
Application Number:	60674822
Application Number:	60698686
Application Number:	60730718
Application Number:	60742963
Application Number:	60698691
Application Number:	60699204
Application Number:	60695155
Application Number:	60466377
Application Number:	60392573
Application Number:	61096405
Application Number:	61023732
Application Number:	60776523
Application Number:	12706042
Application Number:	60636255
Application Number:	60701478
Application Number:	12748722
Application Number:	60591104
Application Number:	60634102
Application Number:	60591097
Application Number:	60624197
Application Number:	60561738
Application Number:	13781869
Application Number:	13418967
Application Number:	60953317
Application Number:	60963010
Application Number:	60772320
Application Number:	61494848
Application Number:	60350660
Application Number:	61155482
Application Number:	61611718
Application Number:	60927685
Application Number:	61321402

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: (312) 690-3723
Email: efako@hilcoglobal.com
Correspondent Name: ERIK FAKO
Address Line 1: 401 N. MICHIGAN AVE.
Address Line 2: SUITE 1600
Address Line 4: CHICAGO, ILLINOIS 60611

NAME OF SUBMITTER:	JOSHUA GAMMON
SIGNATURE:	//Joshua Gammon//
DATE SIGNED:	12/17/2017

Total Attachments: 19

source=Exhibit B(2) to Patent Assignment Agreement - Executed#page1.tif
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source=Exhibit B(2) to Patent Assignment Agreement - Executed#page4.tif
source=Exhibit B(2) to Patent Assignment Agreement - Executed#page5.tif
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EXHIBIT B(2)

ASSIGNMENT

THIS ASSIGNMENT ("Assignment") is made by and between Avago Technologies General IP (Singapore) Pte. Ltd. (Company Registration No. 200512430D), a Singapore company having an office at No. 1 Yishun Avenue 7, Singapore 768923 ("Avago") on behalf of itself and as representative and agent for its affiliates (collectively, "Affiliates"), and Broadcom Corporation (and together with Avago and Affiliates, "Assignors" and each an Assignor) and Bell Northern Research, LLC, a Delaware limited liability company, having its principal place of business at 401 North Michigan Avenue, Chicago, Illinois 60611 ("Assignee").

WHEREAS, each of the Assignors owns, right, title and interest in, to and under one or more of the Patents listed in the Attachments hereto (the "PATENTS");

WHEREAS, each of the Assignors has agreed to assign all of its rights, title, and interest in, to and under each of the Patents it owns from the PATENTS listed in Schedule B(2) to Assignee.

NOW, THEREFORE, for other good and valuable consideration, the receipt of which is hereby acknowledged:

Effective on November 30, 2017, each of the Assignors agrees to sell, assign, transfer and set over, and hereby sells, assigns, transfers, and sets over to Assignee, Assignor's entire right, title, and interest in, to, and under the PATENTS, and all patents, patent applications, foreign patents, foreign patent applications, continuations, continuations–in-part, divisionals, extensions, renewals, reissues and re-examination certificates that may issue thereon and claim priority to the PATENTS, including without limitation, all rights to claim priority on the basis thereof, all rights to sue for past, present and future infringement, including the right to collect and receive any damages, royalties, or settlements for the infringements, all rights to sue for injunctive or other equitable relief, and any and all causes of action relating to any of the inventions or discoveries thereof.

IN WITNESS WHEREOF, each of the Assignors has caused this Assignment to be executed by its duly authorized officer, representative or agent as of this 8th day of December, 2017.

Avago Technologies General IP (Singapore) Pte. Ltd.

Signature: _____
Name: Jeyhan Karaoguz
Title: Vice President and Co-General Manager
Date: December 8, 2017

Broadcom Corporation

Signature: _____
Name: Jeyhan Karaoguz
Title: Vice President and Co-General Manager
Date: December 8, 2017

ACCEPTED AND AGREED by:

Bell Northern Research, LLC

Signature: _____
Name: Jeffrey P. Vescio
Title: Vice President
Date: December 15, 2017

State of_____)
County of_____)

On this _____ day of _____, 2017, before me appeared _____, to me personally known who, being duly sworn, did depose and say that he is the _____of the Assignor and the agent of each of the Affiliates named in and which executed the foregoing instrument; and that said instrument was signed on behalf of said Assignor and each of the Affiliates; and said person acknowledged said instrument to be the free and authorized act and deed of said Assignor and each of the Affiliates.

_____
Notary Public
My Commission Expires:_____

See attached

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of Orange)

On December 8th, 2017 before me, Vanessa Elfend, Notary Public,
Date *Here Insert Name and Title of the Officer*

personally appeared Jeyhan Karaoguz
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

VANESSA LYNN ELFEND
Commission # 2078868
Notary Public - California
Orange County
My Comm. Expires Aug 21, 2018

WITNESS my hand and official seal.

Signature _____
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document Exhibit B(2)
Title or Type of Document: Patent Assignment Agreement Document Date: 12-8-2017
Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Corporate Officer — Title(s): _____	☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator	☐ Trustee ☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
Signer Is Representing: _____	Signer Is Representing: _____

SCHEDULE B(2)

See attached listing of patents and patent applications for Schedule B(2) on the pages that follow.

AppNo	PatentNo	FiledDate	GrantDate	Status	Country	App Title
12169814	7996047	2008-07-09	2011-08-09	Granted	United States of America	Advisory Alert Of Low Signal Strength For Cell Phone User
10931902	7412263	2004-09-01	2008-08-12	Granted	United States of America	Advisory Alert Of Low Signal Strength For Cell Phone User
10959186	7702363	2004-10-07	2010-04-20	Granted	United States of America	Cordless Telephone With MP3 Player Capability
3100815	1104150	2000-11-13	2011-10-05	Lapsed	France	Cordless Telephone With MP3 Player Capability
2325244	2,325,244	2000-11-08	2009-10-13	Lapsed	Canada	Cordless Telephone With MP3 Player Capability
3100815	60046503.9	2000-11-13	2011-10-05	Granted	Germany (Federal Republic of)	Cordless Telephone With MP3 Player Capability
3100815	1104150	2000-11-13	2011-10-05	Lapsed	United Kingdom	Cordless Telephone With MP3 Player Capability
2000355236		2000-11-22		Abandoned	Japan	Cordless Telephone With MP3 Player Capability
09447284	7945284	1999-11-23	2011-05-17	Granted	United States of America	Cordless Telephone With MP3 Player Capability
12706047	7945285	2010-02-16	2011-05-17	Granted	United States of America	Integrating A Digital Encoded-Audio Bit Stream Player in a Radio-Frequency Telephone Handset
13096420	8200280	2011-04-28	2012-06-12	Granted	United States of America	Cordless Telephone and Digital Audio Player Capability
13472780		2012-05-16		Abandoned	United States of America	Cordless Telephone with Digital Audio Player Capability
3100815	1104150	2000-11-13	2011-10-05	Completed	European Patent	Cordless Telephone With MP3 Player Capability
11567086		2006-12-05		Abandoned	United States of America	System And Method For Obscuring Unwanted Ambient Noise And A Mobile Communications Device And Central Office Equipment Incorporating The Same
4061313	2406251	2004-03-18	2005-12-07	Lapsed	United Kingdom	System and Method for Obscuring Unwanted Ambient Noise and Handset and Central Office Equipment Incorporating the Same
2004274282		2004-09-22		Abandoned	Japan	System and Method for Obscuring Unwanted Ambient Noise and Handset and Central Office Equipment Incorporating the Same
10667624	7162212	2003-09-22	2007-01-09	Granted	United States of America	System And Method For Obscuring Unwanted Ambient Noise And Handset And Central Office Equipment Incorporating The Same
11945505	8204554	2007-11-27	2012-06-19	Granted	United States of America	System And Method For Conserving Battery Power In A Mobile Station
11516316	7319889	2006-09-06	2008-01-15	Granted	United States of America	System And Method For Conserving Battery Power In A Mobile Station
1020040282595	10-2004-028259	2004-06-11	2014-02-13	Granted	Germany (Federal Republic of)	System And Method For Conserving Battery Power In A Mobile Station
2004179016		2004-06-17		Abandoned	Japan	System And Method For Conserving Battery Power In A Mobile Station

AppNo	PatentNo	FiledDate	GrantDate	Status	Country	App Title
10463630	7113811	2003-06-17	2006-09-26	Granted	United States of America	System And Method For Conserving Battery Power In A Mobile Station
13472940	8483780	2012-05-16	2013-07-09	Granted	United States of America	System and Method for Conserving Battery Power in a Mobile Station
11369363	7499722	2006-03-07	2009-03-03	Granted	United States of America	A Proximity Regulation System For Use With A Portable Cell Phone And A Method of Operation Thereof
12367078	8140128	2009-02-06	2012-03-20	Granted	United States of America	Portable Cell Phone And A Proximity Regulation For Use With A Portable Cell Phone
2068450	2380359	2002-03-22	2005-12-07	Lapsed	United Kingdom	A Proximity Regulation System For Use With A Portable Cell Phone And A Method of Operation Thereof
2002280418	4057383	2002-09-26	2007-12-21	Granted	Japan	A Proximity Regulation System For Use With A Portable Cell Phone And A Method of Operation Thereof
09967140	7039435	2001-09-28	2006-05-02	Granted	United States of America	A Proximity Regulation System For Use With A Portable Cell Phone And A Method of Operation Thereof
13398656	8532594	2012-02-16	2013-09-10	Granted	United States of America	Portable Cell Phone and a Proximity Regulation for Use with A Portable Cell Phone
12034385	8078197	2008-02-20	2011-12-13	Granted	United States of America	Location-Based Search-Result Ranking For Blog Documents And The Like
13292170		2011-11-09		Abandoned	United States of America	Location-Based Search-Result Ranking For Blog Documents And The Like
22517908	60208151.3	2002-03-13	2005-12-21	Granted	Germany (Federal Republic of)	Flip-Cover Sensor For Keypad
22517908	1345390	2002-03-13	2005-12-21	Lapsed	France	Flip-Cover Sensor For Keypad
22517908	1345390	2002-03-13	2005-12-21	Lapsed	United Kingdom	Flip-Cover Sensor For Keypad
2003065259	4285031	2003-03-11	2009-04-03	Granted	Japan	Flip-Cover Sensor For Keypad
10370137	6894239	2003-02-19	2005-05-17	Granted	United States of America	Flip-Cover Sensor For Keypad
2009000149		2009-01-05		Abandoned	Japan	Flip-Cover Sensor For Keypad
22517908	1345390	2002-03-13	2005-12-21	Completed	European Patent	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of MobileRadio UnitsMatching
98300050.6		1998-01-06		Abandoned	France	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of MobileRadio UnitsMatching
98300050.6		1998-01-06		Abandoned	United Kingdom	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of Mobile Radio Units

AppNo	PatentNo	FiledDate	GrantDate	Status	Country	App Title
10-004449		1998-01-13		Abandoned	Japan	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of Mobile Radio Units
98300050.6		1998-01-06		Abandoned	Germany (Federal Republic of)	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of Mobile Radio Units
19980000489	353313	1998-01-10	2002-09-06	Granted	Korea, Republic of (KR)	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of Mobile Radio Units
86117869	361013	1997-11-27	1999-06-11	Lapsed	Taiwan	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of Mobile Radio Units
08782355	6208846	1997-01-13	2001-03-27	Expired	United States of America	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of MobileRadio Units
98300050.6		1998-01-06		Abandoned	European Patent	Method And Apparatus For Enhancing Transmitter Circuit Efficiency Of MobileRadio Units
2000355110		2000-11-22		Abandoned	Japan	Methods And Apparatus For Identification And Purchase Of Broadcast Digital Music And Other Types Of Information
09444818	6925489	1999-11-22	2005-08-02	Granted	United States of America	Methods And Apparatus For Identification And Purchase Of Broadcast Digital Music And Other Types Of Information
3100708		2000-11-13		Abandoned	European Patent	Methods And Apparatus For Identification And Purchase Of Broadcast Digital Music And Other Types Of Information
2012166985		2012-07-27		Abandoned	Japan	Methods And Apparatus For Identification And Purchase Of Broadcast Digital Music And Other Types Of Information
22549398	1278395	2002-07-12	2009-11-25	Lapsed	France	Second-Order Adaptive Differential Microphone Array
22549398	60234487.5	2002-07-12	2009-11-25	Lapsed	Germany (Federal Republic of)	Second-Order Adaptive Differential Microphone Array
22549398	1278395	2002-07-12	2009-11-25	Lapsed	United Kingdom	Second-Order Adaptive Differential Microphone Array
60306271		2001-07-18		Expired	United States of America	Adjustable Differential Microphones
9999298	6,584,203	2001-10-30	2003-06-24	Expired	United States of America	Second-Order Adaptive Differential Microphone Array
09999380	7123727	2001-10-30	2006-10-17	Granted	United States of America	Adaptive Close-Talking Differential Microphone Array
22549398	1278395	2002-07-12	2009-11-25	Completed	European Patent	Second-Order Adaptive Differential Microphone Array
11291937	7570978	2005-12-01	2009-08-04	Granted	United States of America	Apparatus And Method For Preventing An Unintentional Activation Of A Mobile Communication Device
PCTUS06061406		2006-11-30		Expired	International	Apparatus And Method For Preventing An Unintentional Activation Of A Mobile Communication Device

AppNo	PatentNo	FiledDate	GrantDate	Status	Country	App Title
68464205	1966980	2006-11-30	2015-06-17	Completed	European Patent	Apparatus And Method For Preventing An Unintentional Activation Of A Mobile Communication Device
1020087016068	10-1304183	2006-11-30	2013-08-30	Granted	Korea, Republic of (KR)	Apparatus And Method For Preventing An Unintentional Activation Of A Mobile Communication Device
68464205	6020060457456	2006-11-30	2015-06-17	Granted	Germany (Federal Republic of)	Apparatus And Method For Preventing An Unintentional Activation Of A Mobile Communication Device
68464205	1966980	2006-11-30	2015-06-17	Lapsed	United Kingdom	Apparatus And Method For Preventing An Unintentional Activation Of A Mobile Communication Device
PCTUS04031193		2004-09-23		Expired	International	Mobile Communication Device Having Panoramic Imagemaking Capability
47848767		2004-09-23		Abandoned	France	Mobile Communication Device Having Panoramic Imagemaking Capability
47848767		2004-09-23		Abandoned	Germany (Federal Republic of)	Mobile Communication Device Having Panoramic Imagemaking Capability
47848767		2004-09-23		Abandoned	United Kingdom	Mobile Communication Device Having Panoramic Imagemaking Capability
2007533441	4618651	2004-09-23	2010-11-05	Granted	Japan	Mobile Communication Device Having Panoramic Imagemaking Capability
1020077006995	10-1074284	2004-09-23	2011-10-11	Granted	Korea, Republic of (KR)	Mobile Communication Device Having Panoramic Imagemaking Capability
11575856	7782375	2007-07-13	2010-08-24	Granted	United States of America	Mobile Communication Device Having Panoramic Imagemaking Capability
47848767		2004-09-23		Abandoned	European Patent	Mobile Communication Device Having Panoramic Imagemaking Capability
2007306991		2000-06-23		Abandoned	Japan	Accelerometer Influenced Communication Device
003049822	60022946.7	2000-06-13	2005-10-05	Granted	Germany (Federal Republic of)	Accelerometer Influenced Communication Device
2000118750	1147187	2000-06-23	2004-04-21	Granted	China	Accelerometer Influenced Communication Device
003049822	1063837	2000-06-13	2005-10-05	Lapsed	France	Accelerometer Influenced Communication Device
003049822	1063837	2000-06-13	2005-10-05	Lapsed	United Kingdom	Accelerometer Influenced Communication Device
2311113	2,311,113	2000-06-08	2004-04-06	Lapsed	Canada	Accelerometer Influenced Communication Device
2000189024		2000-06-23		Abandoned	Japan	Accelerometer Influenced Communication Device
09339893	6549792	1999-06-25	2003-04-15	Granted	United States of America	Accelerometer Influenced Communication Device
2010100621	4938100	2000-06-23	2012-03-02	Granted	Japan	Accelerometer Influenced Communication Device

AppNo	PatentNo	FiledDate	GrantDate	Status	Country	App Title
003049822	1063837	2000-06-13	2005-10-05	Completed	European Patent	Accelerometer Influenced Communication Device
09245078	6363257	1999-02-05	2002-03-26	Granted	United States of America	Method, Apparatus, And Communication Protocol For Transmitting Control Data With An Improved Error Correction Capability In A Digital Cordless Telephone System
3005626		2000-01-26		Abandoned	European Patent	Method, Apparatus, And Communication Protocol For Transmitting Control Data With An Improved Error Correction Capability In A Digital Cordless Telephone System
1.02005E+12		2005-12-20		Abandoned	Germany (Federal Republic of)	Techniques For Monitoring Mobile Telecommunications For Shared Accounts
2005368928		2005-12-22		Abandoned	Japan	Techniques For Monitoring Mobile Telecommunications For Shared Accounts
11022159	7280816	2004-12-23	2007-10-09	Granted	United States of America	Techniques For Monitoring Mobile Telecommunications For Shared Accounts
11084344	7751541	2005-03-18	2010-07-06	Granted	United States of America	Communication Setup Methods For GSM, UMTS And ISDN Protocols To Enable Personalized Telephony And Communication Device Incorporating The Same
2004338245	4594046	2004-11-24	2010-09-24	Granted	Japan	Method And Apparatus For Power Management Using Transmission Mode With Reduced Power
10874834	7610495	2004-06-23	2009-10-27	Granted	United States of America	Method And Apparatus For Power Management Using Transmission Mode With Reduced Power
042571307	1536569	2004-11-17	2015-03-25	Completed	European Patent	Software-Directed Power Management For Ethernet Network Device
60525231		2003-11-25			United States of America	Software-Directed Power Management For Ethernet Network Device
042571307	6020040468584	2004-11-17	2015-03-25	Granted	Germany (Federal Republic of)	Software-Directed Power Management For Ethernet Network Device
042571307	1536569	2004-11-17	2015-03-25	Lapsed	United Kingdom	Software-Directed Power Management For Ethernet Network Device
042571307	1536569	2004-11-17	2015-03-25	Lapsed	France	Software-Directed Power Management For Ethernet Network Device
10855458	7404146	2004-05-27	2008-07-22	Granted	United States of America	Input Device For Portable Handset
09888493	6941156	2001-06-26	2005-09-06	Granted	United States of America	Automatic Handoff For Wireless Piconet Multimode Cell Phone
09944367	6696941	2001-09-04	2004-02-24	Granted	United States of America	Theft Alarm In Mobile Device
08853736	6118881	1997-05-13	2000-09-12	Expired	United States of America	Reduction Of Flow\(miInduced Microphone Noise
6001248.1	1715643	2006-01-20	2013-10-23	Expired	European Patent	RF TRANSCEIVER HAVING ADAPTIVE MODULATION

AppNo	PatentNo	FiledDate	GrantDate	Status	Country	App Title
200610074842.7	CN1855798	2006-04-19	2011-09-28	Granted	China	RF TRANSCEIVER HAVING ADAPTIVE MODULATION
6001248.1	602006038913.2	2006-01-20	2013-10-23	Granted	Germany (Federal Republic of)	RF TRANSCEIVER HAVING ADAPTIVE MODULATION
95113933	I353740	2006-04-19	2011-12-01	Granted	Taiwan	RF TRANSCEIVER HAVING ADAPTIVE MODULATION
60673451		2005-04-21		Converted	United States of America	REDUCED FEEDBACK FOR BEAMFORMING IN A WIRELESS COMMUNICATION (fka FEEDBACK INFORMATION REDUCTION USING POLAR EXPRESSION IN CLOSEDLOOP BEAMFORMING)
60674822		2005-04-26		Converted	United States of America	BEAMFORMING IN A WIRELESS COMMUNICATION (fka ANGLE SUBSET ESTIMATION FOR FEEDBACK CHANNEL USING POLAR EXPRESSION IN CLOSEDLOOP BEAMFORMING)
60698686		2005-07-13		Converted	United States of America	EFFICIENT FEEDBACK FOR CHANNEL INFORMATION IN CLOSED LOOP BEAMFORMING IN A WIRELESS COMMUNICATION
60730718		2005-10-27		Converted	United States of America	FEEDBACK CHANNEL INFORMATION IN A CLOSED LOOP BEAMFORMING WIRELESS COMMUNICATION SYSTEM
60742963		2005-12-07		Converted	United States of America	FEEDBACK OF CHANNNEL INFORMATION IN A CLOSED LOOP BEAMFORMING WIRELESS COMMUNICATION SYSTEM
11168793	7738583	2005-06-28	2010-06-15	Granted	United States of America	REDUCED FEEDBACK FOR BEAMFORMING IN A WIRELESS COMMUNICATION (fka FEEDBACK INFORMATION REDUCTION USING POLAR EXPRESSION IN CLOSEDLOOP BEAMFORMING)
11168590	7502408	2005-06-28	2009-03-10	Granted	United States of America	RF TRANSCEIVER HAVING ADAPTIVE MODULATION
12360850	8184679	2009-01-27	2012-05-22	Granted	United States of America	RF TRANSCEIVER HAVING ADAPTIVE MODULATION
11244518	8085871	2005-10-06	2011-12-27	Granted	United States of America	ADAPTIVE MODULATION IN A MULTIPLE INPUT MULTIPLE OUTPUT WIRELESS COMMUNICATION SYSTEM WITH OPTIONAL BEAMFORMING
11168838	7738584	2005-06-28	2010-06-15	Granted	United States of America	BEAMFORMING IN A WIRELESS COMMUNICATION WITH A PARTIAL ESTIMATION TO REDUCE OVERHEAD
11237341	8416862	2005-09-28	2013-04-09	Granted	United States of America	EFFICIENT FEEDBACK FOR CHANNEL INFORMATION IN CLOSED LOOP BEAMFORMING IN A WIRELESS COMMUNICATION
11412388	8345732	2006-04-27	2013-01-01	Granted	United States of America	FEEDBACK CHANNEL INFORMATION IN A CLOSED LOOP BEAMFORMING WIRELESS COMMUNICATION SYSTEM

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13729881	8743994	2012-12-28	2014-06-03	Granted	United States of America	Feedback of Channel Information in a Closed Loop Beamforming Wireless Communication System
6001248.1	1715643	2006-01-20	2013-10-23	Lapsed	France	RF TRANSCEIVER HAVING ADAPTIVE MODULATION
6001248.1	1715643	2006-01-20	2013-10-23	Lapsed	United Kingdom	RF TRANSCEIVER HAVING ADAPTIVE MODULATION
60698691		2005-07-13		Converted	United States of America	Calibration of Non-Diagonal Distortion to Reciprocity in MIMO Channels
11770975	7894852	2007-06-29	2011-02-22	Granted	United States of America	CHANNEL RECIPROCITY MATRIX DETERMINATION IN A WIRELESS MIMO COMMUNICATION SYSTEM
11209003	7242961	2005-08-22	2007-07-10	Lapsed	United States of America	CHANNEL RECIPROCITY MATRIX DETERMINATION IN A WIRELESS MIMO COMMUNICATION SYSTEM
60699204		2005-07-14		Converted	United States of America	Uniform Precoding for MIMO channels
11433329	7693551	2006-05-12	2010-04-06	Granted	United States of America	Derivation of Beamforming Coefficients and Applications Thereof
200610099751.9	CN101001230	2006-06-26	2010-04-14	Granted	China	MULTIPLE PROTOCOL WIRELESS COMMUNICATION BASEBAND TRANSCEIVER
6011013.7		2006-05-29		Abandoned	European Patent	MULTIPLE PROTOCOL WIRELESS COMMUNICATION BASEBAND TRANSCEIVER
95123363	I351857	2006-06-28	2011-11-01	Lapsed	Taiwan	MULTIPLE PROTOCOL WIRELESS COMMUNICATION BASEBAND TRANSCEIVER
60695155		2005-06-29		Converted	United States of America	MULTIPLE PROTOCOL WIRELESS COMMUNICATION BASEBAND TRANSCEIVER
11433997	7813374	2006-05-15	2010-10-12	Lapsed	United States of America	MULTIPLE PROTOCOL WIRELESS COMMUNICATION BASEBAND TRANSCEIVER
60466377		2003-04-29		Converted	United States of America	LOW POWER PROTOCOL FOR MULTIPLE WIRELESS TERMINALS
10771532	7277417	2004-02-04	2007-10-02	Granted	United States of America	LOW POWER PROTOCOL FOR WIRELESS TERMINAL PEER-TO-PEER COMMUNICATIONS (fka LOW POWER PROTOCOL FOR MULTIPLE WIRELESS)
13534538	8553666	2012-06-27	2013-10-08	Granted	United States of America	LOW POWER PROTOCOL FOR WIRELESS TERMINAL PEER-TO-PEER COMMUNICATIONS
13931136	9025582	2013-06-28	2015-05-05	Granted	United States of America	LOW POWER PROTOCOL FOR WIRELESS TERMINAL PEER-TO-PEER COMMUNICATIONS
11865713	8243701	2007-10-01	2012-08-14	Lapsed	United States of America	LOW POWER PROTOCOL FOR WIRELESS TERMINAL PEER-TO-PEER COMMUNICATIONS
60392573		2002-06-27		Converted	United States of America	SCRAMBLER INITIALIZATION IN A WIRELESS LOCAL AREA NETWORK; fka, HIGH SPEED PHYSICAL LAYER IN THE 5GHZ BAND

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10447626	7317735	2003-05-29	2008-01-08	Granted	United States of America	SCRAMBLER INITIALIZATION IN A WIRELESS LOCAL AREA NETWORK
096127628	I373222	2007-07-27	2012-09-21	Granted	Taiwan	Transmitter Beamforming for Reduced Complexity Multiple Input Multiple Output (MIMO) Transceivers
8107556.3	HK1116943	2007-07-26	2011-11-25	Lapsed	Hong Kong	Transmitter Beamforming for Reduced Complexity Multiple Input Multiple Output (MIMO) Transceivers
7005500.9		2007-03-16		Abandoned	European Patent	Transmitter Beamforming for Reduced Complexity Multiple Input Multiple Output (MIMO) Transceivers
200710138464.9	CN101114863	2007-07-26	2011-03-23	Granted	China	Transmitter Beamforming for Reduced Complexity Multiple Input Multiple Output (MIMO) Transceivers
10-2007-0075975	10-0931901	2007-07-27	2009-12-07	Granted	Korea, Republic of (KR)	Transmitter Beamforming for Reduced Complexity Multiple Input Multiple Output (MIMO) Transceivers
12724134	8306142	2010-03-15	2012-11-06	Granted	United States of America	Transmitter Beamforming for Reduced Complexity Multiple Input Multiple Output (MIMO) Transceivers
11494962	7680205	2006-07-28	2010-03-16	Granted	United States of America	Transmitter Beamforming for Reduced Complexity Multiple Input Multiple Output (MIMO) Transceivers
61096405		2008-09-12		Converted	United States of America	Subspace Beamforming for near Capacity Multiple Input Multiple Output (MIMO) Performance
61023732		2008-01-25		Converted	United States of America	Subspace Beamforming for Near-Capacity Multiple Input Multiple Output (MIMO) Performance
12246206	8233557	2008-10-06	2012-07-31	Granted	United States of America	Subspace Beamforming for Near-Capacity Multiple Input Multiple Output (MIMO) Performance
60776523		2006-02-24		Converted	United States of America	Geometric Mean Decomposition Minimizing Effects of Transmitter Impairments in MIMO Beamforming
11449413	7664200	2006-06-08	2010-02-16	Granted	United States of America	Minimizing Effects of Transmitter Impairments in Multiple Input Multiple Output (MIMO) Beamforming Communication Systems
12706042		2010-02-16		Abandoned	United States of America	Minimizing Effects of Transmitter Impairments in Multiple Input Multiple Output (MIMO) Beamforming Communication Systems
202005022074.4	202005022074.4	2005-09-15	2013-02-20	Expired	Germany (Federal Republic of)	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
202005022049.3	202005022049.3	2005-09-15	2012-09-17	Expired	Germany (Federal Republic of)	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
05020119.3-2415	1672824	2005-09-15	2015-12-02	Granted	France	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
12005338.4		2012-07-20		Application	European Patent	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE

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5020119.3	602005047993	2005-09-15	2015-12-02	Granted	Germany (Federal Republic of)	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
12005339.2		2012-07-20		Application	European Patent	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
05020119.3-2415	1672824	2005-09-15	2015-12-02	Expired	European Patent	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
94144307	I324452	2005-12-14	2010-05-01	Granted	Taiwan	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
05020119.3-2415	1672824	2005-09-15	2015-12-02	Granted	United Kingdom	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
200510131783.8	CN1790943	2005-12-13	2012-01-11	Granted	China	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
60636255		2004-12-14		Converted	United States of America	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
12506053	7957450	2009-07-20	2011-06-07	Granted	United States of America	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
13100014	8437419	2011-05-03	2013-05-07	Granted	United States of America	Method and System for Frame Formats for MIMO Channel Measurement Exchange
11052353	7564914	2005-02-07	2009-07-21	Granted	United States of America	FRAME FORMATS FOR MIMO CHANNEL MEASUREMENT EXCHANGE
13856708	8588283	2013-04-04	2013-11-19	Granted	United States of America	Method and System for Frame Formats for MIMO Channel Measurement Exchange
60701478		2005-07-22		Converted	United States of America	METHOD AND APPARATUS FOR INTERLEAVING IN A WIRELESS COMMUNICATION SYSTEM
11359460	7693234	2006-02-23	2010-04-06	Granted	United States of America	METHOD AND APPARATUS FOR INTERLEAVING IN A WIRELESS COMMUNICATION SYSTEM
12748722		2010-03-29		Abandoned	United States of America	INTERLEAVING IN A WIRELESS COMMUNICATION SYSTEM
60591104		2004-07-27		Converted	United States of America	BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES FOR WIRELESS COMMUNICATION NETWORKS (fka 802.11A/G-BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES)
60634102		2004-12-08		Converted	United States of America	BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES FOR WIRELESS COMMUNICATION NETWORKS
11188771	7646703	2005-07-26	2010-01-12	Granted	United States of America	BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES FOR WIRELESS COMMUNICATION NETWORKS (fka 802.11A/G-BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES)

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12684650	7990842	2010-01-08	2011-08-02	Granted	United States of America	BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES FOR WIRELESS COMMUNICATION NETWORKS (fka 802.11A/G-BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES)
13196082	8477594	2011-08-02	2013-07-02	Granted	United States of America	BACKWARD-COMPATIBLE LONG TRAINING SEQUENCES FOR WIRELESS COMMUNICATION NETWORKS
05016005.0-2411	1622290	2005-07-22	2008-03-05	Abandoned	France	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
200510085677.0	CN1738250A	2005-07-26	2008-10-10	Granted	China	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
05016005.0-2411	1622290	2005-07-22	2008-03-05	Abandoned	United Kingdom	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
05016005.0-2411	602005005115.5-08	2005-07-22	2008-03-05	Granted	Germany (Federal Republic of)	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
94125416	I284463	2005-07-27	2007-07-21	Lapsed	Taiwan	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
05016005.0-2411	1622290	2005-07-22	2008-03-05	Completed	European Patent	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
60591097		2004-07-27		Converted	United States of America	WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS (fka 40 MHZ MIXED-MODE FRAME STRUCTURE)
60624197		2004-11-03		Converted	United States of America	WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
11188767	7586887	2005-07-26	2009-09-08	Granted	United States of America	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
14094107	9264275	2013-12-02	2016-02-16	Granted	United States of America	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
12553281	7912024	2009-09-03	2011-03-22	Granted	United States of America	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
13069108	8599755	2011-03-22	2013-12-03	Granted	United States of America	METHOD AND APPARATUS FOR WIDE BANDWIDTH MIXED-MODE WIRELESS COMMUNICATIONS
60561738		2004-04-13		Converted	United States of America	NEW PACKET PREAMBLE FOR WIDEBAND WIRELESS LAN SYSTEMS
11050505	7515581	2005-02-03	2009-04-07	Granted	United States of America	NEW PACKET PREAMBLE FOR WIDEBAND WIRELESS LAN SYSTEMS
JP2013-554051		2012-02-21		Abandoned	Japan	Congestion Avoidance for Control Channels Prior Connection Establishment

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GB1118184.9	GB2484827	2011-10-21	2012-11-28	Abandoned	United Kingdom	Congestion Avoidance for Control Channels Prior Connection Establishment
CN201280017149.X		2012-02-21		Abandoned	China	Congestion Avoidance for Control Channels Prior Connection Establishment
EP12706937.5		2012-02-21		Published	European Patent	Congestion Avoidance for Control Channels Prior Connection Establishment
PCTIB2012050777		2012-02-21		Expired	Patent Cooperation Treaty	Congestion Avoidance for Control Channels Prior Connection Establishment
IN1585MUNMP2013		2012-02-21		Abandoned	India	Congestion Avoidance for Control Channels Prior Connection Establishment
KR10-2013-7024406		2012-02-21		Abandoned	Korea, Republic of (KR)	Congestion Avoidance for Control Channels Prior Connection Establishment
13031355	8396072	2011-02-21	2013-03-12	Granted	United States of America	Method and Apparatus for Channel Traffic Congestion Avoidance in a Mobile Communication System
13781869		2013-03-01		Abandoned	United States of America	Channel Traffic Congestion Avoidance in a Mobile Communication System
13418967		2012-03-13		Abandoned	United States of America	Congestion Avoidance for Control Channels Prior Connection Establishment
CN201280008740.9		2012-02-14		Abandoned	China	Method of prioritising RACH message content
EP12714367.5	2676474	2012-02-14	2015-01-07	Abandoned	European Patent	Method of prioritising RACH message content
IN1492MUMNP2013		2013-08-02		Abandoned	India	Method of prioritising RACH message content
KR10-2013-7024102		2012-02-14		Abandoned	Korea, Republic of (KR)	Method of prioritising RACH message content
JP2013-553065		2012-02-14		Abandoned	Japan	Method of prioritising RACH message content
PCTIB2012050666		2012-02-14		Expired	Patent Cooperation Treaty	Method of prioritising RACH message content
13026512	8792432	2011-02-14	2014-07-29	Granted	United States of America	Prioritizing RACH Message Contents
EP12714367.5	602012004823	2012-02-14	2015-01-07	Lapsed	Germany	Method of prioritising RACH message content
EP12714367.5	2676474	2012-02-14	2015-01-07	Lapsed	France	Method of prioritising RACH message content
EP12714367.5	2676474	2012-02-14	2015-01-07	Lapsed	United Kingdom	Method of prioritising RACH message content
60953317		2007-08-01		Converted	United States of America	HIGH-SPEED UPLINK PACKET ACCESS (HSUPA) CIPHER MULTIPLEXING ENGINE
11861700	7949012	2007-09-26	2011-05-24	Granted	United States of America	HIGH-SPEED UPLINK PACKET ACCESS (HSUPA) CIPHER MULTIPLEXING ENGINE
60963010		2007-08-01		Converted	United States of America	SYNCHRONIZATION CHANNEL NOISE POWER ESTIMATION
11963881	8050237	2007-12-24	2011-11-01	Granted	United States of America	SYNCHRONIZATION CHANNEL NOISE POWER ESTIMATION

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60772320		2006-02-10		Converted	United States of America	Space Time Transmit Diversity (STTD) Decoder within a HSDPA Rake Receiver
11654957	7751466	2007-01-18	2010-07-06	Granted	United States of America	CHANNEL ESTIMATION FOR A HIGH-SPEED DATA PACKET ACCESS RAKE RECEIVER
14062554	9236901	2013-10-24	2016-01-12	Granted	United States of America	Adaptive Inifinite Impulse Response (IIR)-Based Code Detection for Symbol-Level Equalizer
14050922	9143364	2013-10-10	2015-09-22	Granted	United States of America	IQ Imbalance Estimation Using Broadcast Signals
13706009	9374769	2012-12-05	2016-06-21	Granted	United States of America	Enhanced Higher Priority Public Land Mobile Network (HPPLMN) Search
61494848		2011-06-08		Converted	United States of America	Method and System for Pre-Emphasis for an Envelope Tracking Generator
13492279	9197175	2012-06-08	2015-11-24	Granted	United States of America	Methods ands System for Pre-Emphasis of an Envelope Tracking Power Amplifier Supply Voltage
3001462.5		2003-01-22		Abandoned	European Patent	RADIO FREQUENCY INTEGRATED CIRCUIT
60350660		2002-01-22		Converted	United States of America	HIGH LEVEL INTEGRATION OF MIXED SIGNAL RADIO COMPONENTS ON AN RF CHIP AND A BASEBAND CHIP, WHEREIN DSP IN BASEBAND CHIP IS USED TO IMPROVE PERFORMANCE OF RF RADIO COMPONENTS IN RF CHIP
11223170	7421250	2005-09-09	2008-09-02	Lapsed	United States of America	RADIO FREQUENCY INTEGRATED CIRCUIT (fka HIGH LEVEL INTEGRATION OF MIXED SIGNAL RADIO COMPONENTS ON AN RF CHIP AND A BASEBAND CHIP, WHEREIN DSP IN BASEBAND CHIP IS USED TO IMPROVE PERFORMANCE OF RF RADIO COMPONENTS IN RF CHIP)
10103365	6980774	2002-03-21	2005-12-27	Lapsed	United States of America	RADIO FREQUENCY INTEGRATED CIRCUIT (fka HIGH LEVEL INTEGRATION OF MIXED SIGNAL RADIO COMPONENTS ON AN RF CHIP AND A BASEBAND CHIP, WHEREIN DSP IN BASEBAND CHIP IS USED TO IMPROVE PERFORMANCE OF RF RADIO COMPONENTS IN RF CHIP)
61155482		2009-02-25		Converted	United States of America	Idle mode power consumption reduction in wireless communications
13947182	9277499	2013-07-22	2016-03-01	Granted	United States of America	Idle mode power consumption reduction in wireless communications
12430025	8493900	2009-04-24	2013-07-23	Lapsed	United States of America	Idle mode power consumption reduction in wireless communications

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11364751	8218517	2006-02-28	2012-07-10	Granted	United States of America	Dual Frequency Timing Acquisition for Compressed WCDMA Communication Networks
13489169	8767700	2012-06-05	2014-07-01	Granted	United States of America	Method and Apparatus for Dual Frequency Timing Acquisition for Compressed WCDMA Communication Networks
11356685	7702050	2006-02-17	2010-04-20	Granted	United States of America	ADAPTIVE VBLAST RECEIVER FOR WIRELESS MULTIPLE INPUT MULTIPLE OUTPUT (MIMO) DETECTION
12763670	8300747	2010-04-20	2012-10-30	Granted	United States of America	ADAPTIVE VBLAST RECEIVER FOR WIRELESS MULTIPLE INPUT MULTIPLE OUTPUT (MIMO) DETECTION
11829888	8693559	2007-07-28	2014-04-08	Granted	United States of America	Method and system for communication
13680455	9020020	2012-11-19	2015-04-28	Granted	United States of America	System and Method for a Krylov Method Symbol Equalizer
61611718		2012-03-16		Converted	United States of America	Methods and Systems for Pre-Emphasis of an Envelope Tracking Power Amplifier Supply Voltage
60927685		2007-05-04		Converted	United States of America	CHANNEL ESTIMATION FOR UPLINK CSM PUSC IN THE PRESENCE OF TIMING AND FREQUENCY OFFSET
11823763	7680027	2007-06-28	2010-03-16	Granted	United States of America	METHODS AND SYSTEMS FOR CHANNEL ESTIMATION IN A COLLABORATIVE MULTI INPUT MULTIPLE OUTPUT (MIMO) COMMUNICATION SYSTEM
11374705	7684522	2006-03-14	2010-03-23	Granted	United States of America	METHOD AND SYSTEM FOR DETERMINING A LOG-LIKELIHOOD RATIO (LLR) CORRESPONDING TO EACH BIT OF A SYMBOL
11893288	8151158	2007-08-15	2012-04-03	Granted	United States of America	METHOD AND SYSTEM FOR DECODING A DATA BURST IN A COMMUNICATION SYSTEM
61321402		2010-04-06		Converted	United States of America	A METHOD AND SYSTEM FOR AUTOMATICALLY RESCALING AN ACCUMULATION BUFFER IN SYNCHRONIZATION SYSTEMS
12768415	8917704	2010-04-27	2014-12-23	Granted	United States of America	METHOD AND SYSTEM FOR AUTOMATICALLY RESCALING AN ACCUMULATION BUFFER IN SYNCHRONIZATION SYSTEMS
12577080	9118442	2009-10-09	2015-08-25	Granted	United States of America	A METHOD AND SYSTEM FOR CONTINUOUS PACKET CONNECTIVITY
12582771	8284819	2009-10-21	2012-10-09	Granted	United States of America	Athena Harvest; MHM Law; April 6, 2009; Disclosure 1 of 23; OC Metric: 1; Method and System for Interference Suppression in WCDMA Systems
13588297	8503506	2012-08-17	2013-08-06	Granted	United States of America	Method and System for Interference Suppression in WCDMA Systems

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12500564	8681730	2009-07-09	2014-03-25	Granted	United States of America	METHOD AND SYSTEM FOR USING SIGN BASED SYNCHRONIZATION SEQUENCES IN A CORRELATION PROCESS TO REDUCE CORRELATION COMPLEXITY IN AN OFDM SYSTEM