PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
INTELLECTUAL VENTURES ASSETS 154 LLC	12/30/2019

RECEIVING PARTY DATA

Name:	LIBERTY PATENTS LLC
Street Address:	2325 OAK ALLEY
City:	TYLER
State/Country:	TEXAS
Postal Code:	75703

PROPERTY NUMBERS Total: 82

Property Type	Number
Patent Number:	6417793
Patent Number:	6331830
Patent Number:	6920573
Patent Number:	6694491
Patent Number:	7055125
Patent Number:	6769109
Patent Number:	6804812
Patent Number:	7043713
Patent Number:	6696856
Patent Number:	8055877
Patent Number:	6571316
Patent Number:	7337439
Patent Number:	7509504
Patent Number:	8127156
Patent Number:	8458496
Patent Number:	6698001
Patent Number:	6885534
Patent Number:	6933600
Patent Number:	6481001
Patent Number:	6476635

Property Type	Number
Patent Number:	6501815
Patent Number:	6441593
Patent Number:	6529036
Patent Number:	6465732
Patent Number:	6504413
Patent Number:	6541998
Patent Number:	6479852
Patent Number:	6495476
Patent Number:	6563166
Patent Number:	6448855
Patent Number:	6477609
Patent Number:	6468860
Patent Number:	6480077
Patent Number:	6617697
Patent Number:	6339348
Patent Number:	6608530
Patent Number:	6734740
Patent Number:	7493612
Patent Number:	6747478
Patent Number:	6855988
Patent Number:	6828689
Patent Number:	7018875
Patent Number:	6856030
Patent Number:	6992503
Patent Number:	6849958
Patent Number:	7064018
Patent Number:	7112994
Patent Number:	6998722
Patent Number:	7205589
Patent Number:	7064579
Patent Number:	7030446
Patent Number:	7777319
Patent Number:	7265421
Patent Number:	7268580
Patent Number:	7312109
Patent Number:	7285981
Patent Number:	8429585
Patent Number:	7285982

Property Type	Number
Patent Number:	7356799
Patent Number:	7345505
Patent Number:	7627848
Patent Number:	7362133
Patent Number:	7759705
Patent Number:	7446563
Patent Number:	7463059
Patent Number:	8499269
Patent Number:	7538575
Patent Number:	7656192
Patent Number:	8829664
Patent Number:	RE45110
Patent Number:	8856699
Patent Number:	9547736
Patent Number:	9240790
Patent Number:	9912336
Patent Number:	10339245
Patent Number:	10447272
Patent Number:	8643162
Patent Number:	9070668
Patent Number:	9679914
Patent Number:	9978773
Patent Number:	10304854
Application Number:	16422942

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NAME OF SUBMITTER:	LARRY D. THOMPSON, JR.
SIGNATURE:	/Larry D. Thompson, Jr. #43,952/
DATE SIGNED:	01/27/2020

Total Attachments: 9
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Exhibit A-2

ASSIGNMENT OF PATENT RIGHTS

For good and valuable consideration, the receipt of which is hereby acknowledged, Intellectual Ventures Assets 154 LLC, a Delaware limited liability company, with an address at 251 Little Falls Drive, Wilmington, DE 19808 ("***Assignor***"), does hereby sell, assign, transfer, and convey unto Liberty Patents LLC, a Texas limited liability company with an address at 2325 Oak Alley, Tyler, Texas 75703 ("***Assignee***"), all of Assignor's right, title, and interest in and to the following (collectively, the "***Assigned Patent Rights***"):

(a) the patents and patent applications listed in the table below (the "***Patents***");

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
6417793 (09/578838)	US	7/9/2002 (5/25/2000)	Track/Attenuate Circuit And Method For Switched Current Source DAC Alex R. Bugeja
6331830 (09/631596)	US	12/18/2001 (8/3/2000)	Self-Trimming Current Source And Method For Switched Current Source DAC Alex R. Bugeja
JP3845376 (JP2002-500539)	JP	8/25/2006 (5/10/2001)	Track/Attenuate Circuit And Method For Switched Current Source Dac Song Bang-Sup
DE60114051.6 (DE60114051.6)	DE	4/27/2006 (7/31/2001)	Self-Trimming Current Source And Method For Switched Current Source Dac Song, Bang-Sup
FR1388210 (FR01955022.7)	FR	10/12/2005 (7/31/2001)	Self-Trimming Current Source And Method For Switched Current Source Dac Song, Bang-Sup
GB1388210 (GB01955022.7)	GB	10/12/2005 (7/31/2001)	Self-Trimming Current Source And Method For Switched Current Source Dac Song, Bang-Sup
JP3881622 (JP2002-518627)	JP	11/17/2006 (7/31/2001)	Self-Trimming Current Source And Method For Switched Current Source Dac Song, Bang-Sup
6920573 (09/863177)	US	7/19/2005 (5/23/2001)	Energy-Conserving Apparatus And Operating System Having Multiple Operating Functions Stored In Keep-Alive Memory Howard Hong-Dough Lee
6694491 (09/512783)	US	2/17/2004 (2/25/2000)	Programmable Logic Array Embedded In Mask-Programmed ASIC Robert Osann Jr.

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
7055125 (09/827015)	US	5/30/2006 (4/5/2001)	Depopulated Programmable Logic Array Shridhar Mukund
6769109 (09/877170)	US	7/27/2004 (6/8/2001)	Programmable Logic Array Embedded In Mask-Programmed ASIC Robert Osann Jr.
6804812 (10/458892)	US	10/12/2004 (6/10/2003)	Depopulated Programmable Logic Array Robert Osann Jr.
7043713 (10/640171)	US	5/9/2006 (8/12/2003)	Implementing Programmable Logic Array Embedded In Mask-Programmed ASIC Shafy Eltoukhy
6696856 (10/020469)	US	2/24/2004 (10/30/2001)	Function Block Architecture With Variable Drive Strengths Lyle Smith
8055877 (11/248813)	US	11/8/2011 (10/11/2005)	Translated Memory Protection Apparatus For An Advanced Microprocessor Edmund J. Kelly
6571316 (09/595077)	US	5/27/2003 (6/16/2000)	Cache Memory Array For Multiple Address Spaces Godfrey P. D'Souza
7337439 (10/464871)	US	2/26/2008 (6/18/2003)	Method For Increasing The Speed Of Speculative Execution Johnson, Richard
7509504 (10/956219)	US	3/24/2009 (9/30/2004)	Systems And Methods For Control Of Integrated Circuits Comprising Body Biasing Systems Mark Hennecke
8127156 (12/410249)	US	2/28/2012 (3/24/2009)	Systems And Methods For Control Of Integrated Circuits Comprising Body Biasing Systems Mark Hennecke
8458496 (13/406434)	US	6/4/2013 (2/27/2012)	Systems And Methods For Control Of Integrated Circuits Comprising Body Biasing Systems Mark Hennecke
KR10-0429573 (KR10-2001-0084448)	KR	4/19/2004 (12/24/2001)	Method For Creating Register Transfer Level Code Bae, Jong-Hong
6698001 (10/227165)	US	2/24/2004 (8/23/2002)	Method For Generating Register Transfer Level Code Jong-Hong Bae

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
6885534 (10/277640)	US	4/26/2005 (10/21/2002)	Electrostatic Discharge Protection Device For Giga-Hertz Radio Frequency Integrated Circuits With Varactor-Lc Tanks Ker, Ming-Dou;Lee, Cheng-Ming;Lo, Wen-Yu
TWI178729 (TW091103516)	TW	5/21/2003 (2/26/2002)	Substrate For Semiconductor Package Wu, Jung-Ru
6933600 (10/152191)	US	8/23/2005 (5/20/2002)	Substrate For Semiconductor Package Wu, Chung Ju
6481001 (09/563233)	US	11/12/2002 (5/2/2000)	Method And System For Proactively Debugging Fitting Problems In Programmable Logic Devices Moore Michael Timothy
6476635 (09/604992)	US	11/5/2002 (6/28/2000)	Programmable Number Of Metal Lines And Effective Metal Width Along Critical Paths In A Programmable Logic Device Berg John E.
6501815 (09/607697)	US	12/31/2002 (6/30/2000)	Loadable Divide-By-N With Fixed Duty Cycle Stansell Galen
6441593 (09/736907)	US	8/27/2002 (12/14/2000)	Low Noise Switching Regulator Saripella Satish C.
6529036 (09/742758)	US	3/4/2003 (12/20/2000)	Low Noise, Reduced Swing Differential Output Buffer Design Rai Hariom
6465732 (09/792021)	US	10/15/2002 (2/23/2001)	Laser Formation Of A Metal Capacitor And Integrated Coaxial Line Dueweke Michael
6504413 (09/813572)	US	1/7/2003 (3/21/2001)	Buffer Improvement Davidson Colin
6541998 (09/836994)	US	4/1/2003 (4/17/2001)	Active Termination Circuit With An Enable/Disable Rajesh Manapat
6479852 (09/983681)	US	11/12/2002 (10/25/2001)	Memory Cell Having A Deep Trench Capacitor And A Vertical Channel Wu, Joseph
6495476 (09/642939)	US	12/17/2002 (8/22/2000)	Improvement Nitridation To Prevent Native Lee, Cheng-Che

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
6563166 (09/523064)	US	5/13/2003 (3/10/2000)	Flash Cell Device Ni, Cheng-Tsung
6448855 (09/548726)	US	9/10/2002 (4/13/2000)	Accurate Power Detection Circuit For Use In A Power Amplifier Sowlati, Tirdad
CNZL01800912.3 (CN01800912.3)	CN	8/10/2005 (4/3/2001)	Accurate Power Detection Circuit For Use In Power Amplifier Sowlati, Tirdad
DE60128560.3 (DE60128560.3)	DE	5/23/2007 (4/3/2001)	An Accurate Power Detection Circuit For Use In A Power Amplifier Sowlati, Tirdad
FR1277274 (FR01927856.3)	FR	5/23/2007 (4/3/2001)	An Accurate Power Detection Circuit For Use In A Power Amplifier Sowlati, Tirdad
GB1277274 (GB01927856.3)	GB	5/23/2007 (4/3/2001)	A Circuit Technique For Power Detection In Wireless Communication Sowlati, Tirdad
JP5134176 (JP2001-577700)	JP	11/16/2012 (4/3/2001)	An Accurate Power Detection Circuit For Use In A Power Amplifier Sowlati, Tirdad
KR10-0805398 (KR10-2001-7015988)	KR	2/13/2008 (4/3/2001)	Accurate Power Detection Circuit For Use In A Power Amplifier Sowlati, Tirdad
6477609 (09/495043)	US	11/5/2002 (1/31/2000)	Bridge State-Machine Progression For Data Transfers Requested By A Host Bus And Responded To By An External Bus Reiss, Loren B.
6468860 (09/713813)	US	10/22/2002 (11/15/2000)	Integrated Circuit Capable Of Operating At Two Different Power Supply Voltages Murty S. Polavarapu
JP3362727 (JP2000-076584)	JP	10/25/2002 (3/17/2000)	Surface Acoustic Wave Filter Device Ohashi, Wataru
6480077 (09/805898)	US	11/12/2002 (3/15/2001)	Surface Acoustic Wave Filter Device Having A Signal Line Connected By A Wire To A Floating Electrode Ohashi, Wataru

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
6617697 (10/015720)	US	9/9/2003 (11/30/2001)	Assembly With Connecting Structure Jose Solo De Zaldivar
6339348 (09/660449)	US	1/15/2002 (9/12/2000)	Programmable Non-Overlap Time Output Driver Justin R. Fisher
6608530 (10/017709)	US	8/19/2003 (12/14/2001)	Enhanced Zdb Feedback Methodology Utilizing Binary Weighted Techniques David Green
6734740 (10/639342)	US	5/11/2004 (8/12/2003)	Enhanced Zdb Feedback Methodology Utilizing Binary Weighted Techniques David Green
TWI275019 (TW093138159)	TW	3/1/2007 (12/9/2004)	Embedded System And Related Method Capable Of Automatically Updating System Software Ruey-Yuan Tzeng
7493612 (10/907058)	US	2/17/2009 (3/18/2005)	Embedded System And Related Method Capable Of Automatically Updating System Software Ruey-Yuan Tzeng
6747478 (10/267511)	US	6/8/2004 (10/8/2002)	Field Programmable Gate Array With Convertibility To Application Specific Integrated Circuit Raminda U. Madurawe
6855988 (10/413809)	US	2/15/2005 (4/14/2003)	Semiconductor Switching Devices Raminda U. Madurawe
6828689 (10/413810)	US	12/7/2004 (4/14/2003)	Semiconductor Latches And SRAM Devices Raminda U. Madurawe
7018875 (10/762627)	US	3/28/2006 (1/23/2004)	Insulated-Gate Field-Effect Thin Film Transistors Raminda U. Madurawe
6856030 (10/764048)	US	2/15/2005 (1/26/2004)	Semiconductor Latches And SRAM Devices Raminda Udaya Madurawe
6992503 (10/825194)	US	1/31/2006 (4/16/2004)	Programmable Devices With Convertibility To Customizable Devices Raminda Udaya Madurawe
6849958 (10/838745)	US	2/1/2005 (5/5/2004)	Semiconductor Latches And SRAM Devices Raminda Udaya Madurawe
7064018 (10/846698)	US	6/20/2006 (5/17/2004)	Methods For Fabricating Three Dimensional Integrated Circuits Raminda Udaya Madurawe

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
7112994 (10/846699)	US	9/26/2006 (5/17/2004)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
6998722 (10/851752)	US	2/14/2006 (5/24/2004)	Semiconductor Latches And SRAM Devices Raminda Udaya Madurawe
7205589 (10/864092)	US	4/17/2007 (6/8/2004)	Semiconductor Devices Fabricated With Different Processing Options Raminda Udaya Madurawe
7064579 (10/872594)	US	6/20/2006 (6/22/2004)	Alterable Application Specific Integrated Circuit (ASIC) Raminda Udaya Madurawe
7030446 (10/912697)	US	4/18/2006 (8/6/2004)	Semiconductor Switching Devices Raminda Udaya Madurawe
7777319 (10/937828)	US	8/17/2010 (9/10/2004)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
7265421 (10/979024)	US	9/4/2007 (11/2/2004)	Insulated-Gate Field-Effect Thin Film Transistors Raminda Udaya Madurawe
7268580 (10/988396)	US	9/11/2007 (11/15/2004)	Configuration Circuits For Three Dimensional Programmable Logic Devices Raminda Udaya Madurawe
7312109 (11/102855)	US	12/25/2007 (4/11/2005)	Methods For Fabricating Fuse Programmable Three Dimensional Integrated Circuits Raminda Udaya Madurawe
7285981 (11/357145)	US	10/23/2007 (2/21/2006)	Configuration Circuit For Programmable Logic Devices Raminda Udaya Madurawe
8429585 (11/363304)	US	4/23/2013 (2/27/2006)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
7285982 (11/365031)	US	10/23/2007 (3/2/2006)	Configuration Circuits For Programmable Logic Devices Raminda Udaya Madurawe
7356799 (11/384116)	US	4/8/2008 (3/20/2006)	Timing Exact Design Conversions From FPGA To ASIC Raminda Udaya Madurawe
7345505 (11/400122)	US	3/18/2008 (4/10/2006)	Alterable Application Specific Integrated Circuit (ASIC) Raminda Udaya Madurawe

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
7627848 (11/645313)	US	12/1/2009 (12/26/2006)	Bit Stream Compatible FPGA To MPGA Conversions Raminda Udaya Madurawe
7362133 (11/801739)	US	4/22/2008 (5/11/2007)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
7759705 (11/801738)	US	7/20/2010 (5/11/2007)	Semiconductor Devices Fabricated With Different Processing Options Raminda Udaya Madurawe
7446563 (11/985822)	US	11/4/2008 (11/19/2007)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
7463059 (12/045635)	US	12/9/2008 (3/10/2008)	Alterable Application Specific Integrated Circuit (ASIC) Raminda Udaya Madurawe
8499269 (12/104377)	US	7/30/2013 (4/16/2008)	Timing Exact Design Conversions From FPGA To ASIC Raminda Udaya Madurawe
7538575 (12/105259)	US	5/26/2009 (4/17/2008)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
7656192 (12/254629)	US	2/2/2010 (10/20/2008)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
8829664 (12/834077)	US	9/9/2014 (7/12/2010)	Three Dimensional Integrated Circuits Raminda U. Madurawe
RE45110 (13/411486)	US	9/2/2014 (3/2/2012)	Mpga Products Based On A Prototype Fpga Raminda Udaya Madurawe
8856699 (13/609108)	US	10/7/2014 (9/10/2012)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
9547736 (13/953666)	US	1/17/2017 (7/29/2013)	Timing Exact Design Conversions From Fpga To Asic Raminda Madurawe
9240790 (14/458939)	US	1/19/2016 (8/13/2014)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
9912336 (14/949679)	US	3/6/2018 (11/23/2015)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
10339245 (15/407242)	US	7/2/2019 (1/16/2017)	Timing Exact Design Conversions From Fpga To Asic

Patent/Application Number	Country	Issue Date/ Filing Date	Title Of Patent And First Named Inventor
			Raminda Udaya Madurawe
10447272 (15/893537)	US	10/15/2019 (2/9/2018)	Three Dimensional Integrated Circuits Raminda Udaya Madurawe
8643162 (11/986023)	US	2/4/2014 (11/19/2007)	Pads And Pin-Outs In Three Dimensional Integrated Circuits Raminda Udaya Madurawe
9070668 (14/147881)	US	6/30/2015 (1/6/2014)	Pads And Pin-Outs In Three Dimensional Integrated Circuits Raminda Udaya Madurawe
9679914 (14/715375)	US	6/13/2017 (5/18/2015)	Pads And Pin-Outs In Three Dimensional Integrated Circuits Raminda Udaya Madurawe
9978773 (15/620142)	US	5/22/2018 (6/12/2017)	Pads And Pin-Outs In Three Dimensional Integrated Circuits Raminda Udaya Madurawe
10304854 (15/985590)	US	5/28/2019 (5/21/2018)	Pads And Pin-Outs In Three Dimensional Integrated Circuits Raminda Udaya Madurawe
(16/422942)	US	(5/24/2019)	Pads And Pin-Outs In Three Dimensional Integrated Circuits Raminda Udaya Madurawe

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IN WITNESS WHEREOF this Assignment of Patent Rights is executed on December 30, 2019, to be effective as of December 30, 2019.

ASSIGNOR:

INTELLECTUAL VENTURES ASSETS 154 LLC

By: Jim Weisfield
Jim Weisfield (Dec 30, 2019)
Name: Jim Weisfield
Title: Authorized Person