

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5935794

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
MARVELL SEMICONDUCTOR, INC.	12/31/2019
RECEIVING PARTY DATA	
Name:	MARVELL INTERNATIONAL LTD.
Street Address:	CANON'S COURT, 22 VICTORIA STREET
City:	HAMILTON
State/Country:	BERMUDA
Postal Code:	HM12
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	10434524
CORRESPONDENCE DATA	
Fax Number:	(248)641-0270
<i>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.</i>	
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Email:	sstevens@hdp.com
Correspondent Name:	HARNESS, DICKEY & PIERCE, P.L.C.
Address Line 1:	P.O. BOX 828
Address Line 4:	BLOOMFIELD HILLS, MICHIGAN 48303
ATTORNEY DOCKET NUMBER:	5059-500027
NAME OF SUBMITTER:	STEPHANIE STEVENS
SIGNATURE:	/Stephanie Stevens/
DATE SIGNED:	01/29/2020
Total Attachments: 13	
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ASSIGNMENT AND QUITCLAIM TRANSFER

WHEREAS, Marvell Semiconductor, Inc., a corporation organized under the laws of California, and with offices at 5488 Marvell Lane, Santa Clara, California 95054 (hereinafter "**Assignor**") owns the patents and patent applications listed in Exhibit A attached hereto and incorporated herein by this reference (hereinafter "**Group A**") and may have an ownership interest in some or all of the patents and patent applications listed in Exhibit B attached hereto and incorporated herein by this reference (hereinafter "**Group B**");

WHEREAS, Marvell International Ltd., a corporation organized under the laws of Bermuda, and with offices at Canon's Court, 22 Victoria Street, Hamilton, HM12, a limited liability corporation (hereinafter "**Assignee**"), desires to acquire the Assignor's ownership interest in, to and under the **Group A** and the **Group B**; and

WHEREAS, Assignor has executed on an effective date of December 31, 2019 (hereinafter "**Effective Date**") that certain Transfer and Assignment Agreement assigning, among other things, all interest in and to the **Group A** and transferring by quitclaim its ownership interest, if any, in and to the **Group B** to Assignee (the "Purchase Agreement").

NOW, THEREFORE, for consideration of one dollar (\$1.00) and other good and valuable consideration paid by Assignee to Assignor, the receipt and sufficiency of which hereby is acknowledged, Assignor does hereby sell, assign and transfer to Assignee its entire interest in and to the **Group A**, including all divisions, continuations, reexaminations, reissues, and foreign counterparts of the applications and patent registrations for the **Group A** (and the right to claim priority and the right to apply for any of the foregoing); including assignment of any and all provisional applications that are relied upon for priority; all rights to causes of action and remedies related thereto (including, without limitation, the right to sue for past, present or future infringement, misappropriation or violation of rights related to the foregoing); and any and all other rights and interests arising out of, in connection with or in relation to the **Group A**.

FURTHER, for consideration of one dollar (\$1.00) and other good and valuable consideration paid by Assignee to Assignor, the receipt and sufficiency of which hereby is acknowledged, Assignor does hereby **quitclaim** sell, assign and transfer to Assignee its ownership interest, if any, in and to the **Group B**, including all divisions, continuations, reexaminations, reissues, and foreign counterparts of the applications and patent registrations for the **Group B** (and the right to claim priority and the right to apply for any of the foregoing); including assignment of any and all provisional applications that are relied upon for priority; all rights to causes of action and remedies related thereto (including, without limitation, the right to sue for past, present or future infringement, misappropriation or violation of rights related to the foregoing); and any and all other rights and interests arising out of, in connection with or in relation to the **Group B**.

FURTHER, nothing contained herein shall be deemed to alter or amend the terms and provisions of the Purchase Agreement and in the event of any conflict between the terms and provisions of this Assignment and the Purchase Agreement, the terms and provisions of the Purchase Agreement shall be deemed to govern and be controlling in all circumstances. This Assignment is executed pursuant to the Purchase Agreement and is entitled to the benefits and subject to the

provisions thereof and shall bind and inure to the benefit of the parties thereto and their respective successors and assigns.

FURTHER, Assignor hereby covenants and agrees to execute and deliver, at the request of Assignee, such further instruments of transfer and assignment and to take any other action as such Assignee may reasonably request to more effectively consummate the assignments contemplated by this Assignment. Specifically, Assignor agrees to, at Assignee's expense, execute, acknowledge and deliver such further documents, instruments, conveyances and assurances and take such further actions as may be reasonably required to register in the name of Assignee the assignment of any of the Patents in Group A and/or the Group B in any appropriate governmental agency or registrar.

IN WITNESS WHEREOF, Assignor and Assignee have executed and delivered this Patent Assignment by their duly authorized representatives at 11:54 pm PST on the Effective Date.

ASSIGNOR:

Marvell Semiconductor, Inc.,
a corporation organized under the laws of California

By:

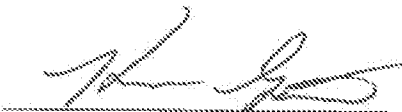


Kelvin Vivian
Director, Assistant General Counsel, IP Development

ASSIGNEE:

Marvell International Ltd.,
a corporation organized under the laws of Bermuda

By:



Kenneth Goertzen
Director

Exhibit A - 1B MSI to MIL Group

Family	IP Right ID	Country	Application Number	Filing Date	Patent Number	Issue Date	Status	Title
MP0236	MP0236	US	10/434,524	5/8/2003	7288945	10/30/2007	In Force	FABRICATION OF WIRE BOND PADS OVER UNDERLYING ACTIVE DEVICES, PASSIVE DEVIC

Exhibit B - 1B MSI to MIL Group B

Family	JP Right ID	Country	Application Number	Ing Date	Patent Number	Issue Date	Status	Title
MP0185	MP0185WJPI	JP	2004-520097	7/10/2003	4271656	3/6/2009	In Force	OUTPUT REGULATOR SYSTEM
MP0315	MP0315	US	10/567,197					
MP0375	MP0375D1	US	11/751,593	5/21/2007	7640370	12/29/2009	In Force	METHOD AND APPARATUS FOR CONTROLLING DATA TRANSFER BETWEE
MP0375	MP0375D1C1	US	12/616,111	11/10/2009	8856391	10/7/2014	In Force	METHOD AND APPARATUS FOR CONTROLLING DATA TRANSFER BETWEE
MP0452	MP0452	US	10/795,727					
MP0479	MP0479	US	10/801,197					
MP0626	MP0626C1CN	CN	200600579760	3/17/2006			Pending	WIRELESS AUDIO FOR ENTERTAINMENT CENTERS
MP0778	MP0778WOKR	KR	10-2001-7012114	3/23/2000	619806	8/28/2006	In Force	ARBITRATION METHODS AND SYSTEMS FOR ARBITRATING ACCESS TO A
MP0779	MP0779WOKR	KR	10-2001-7015758	6/1/2000	699062	3/16/2007	In Force	DISK DRIVE CONTROLLER CIRCUIT AND METHOD FOR SKIPPING DEFECTIV
MP0780	MP0780WQJP	JP	2002-521285	7/17/2001	JP4579494	9/3/2010	In Force	DISK CONTROLLER CONFIGURED TO PERFORM OUT OF ORDER
MP10226	MP10226PR	US	62/802,113			2/6/2019	Pending	Method and Apparatus for Extendable Hardware Queues
MP10289	MP10289PR	US	62/767,753	11/15/2018			Pending	LOW-POWER SERIALIZER WITH HALF-RATE CLOCKING FOR SERIAL COMM
MP10295	MP10295C1	US	0				Not Filed	Modular Memory-Like Layout for FinFET Analog Designs
MP10326	MP10326	US	16/049,732	7/30/2018			Pending	WAKEUP RADIO (WUR) PACKET PREAMBLE DESIGN
MP10383	MP10383C1	US	16/702,628	12/4/2019			Pending	Ethernet Transceiver with PHY-Level Signal-Loss Detector
MP10400	MP10400C1	US	0				Not Filed	TWO DIMENSIONAL MAGNETIC RECORDING (TDMR) OFF-TRACK PERFOR
MP10473	MP10473	US	16/690,803	11/21/2019			Pending	SERIAL MANAGEMENT INTERFACE WITH IMPROVED RELIABILITY
MP10473	MP10473PR	US	62/770,537	11/21/2018			Pending	Reliable SMI Access
MP10482	MP10482PR	US	62/771,879	11/27/2018			Pending	Latency optimization using a Smart Samplers Placement
MP10493	MP10493PR	US	62/814,165	3/5/2019			Pending	Flash Controller
MP10494	MP10494	US	16/583,541	9/26/2019			Pending	POLYGONAL BGA SEMICONDUCTOR PACKAGE
MP10494	MP10494C1	US	0				Not Filed	POLYGONAL BGA SEMICONDUCTOR PACKAGE
MP10496	MP10496	US	16/406,898	5/8/2019			Pending	WiFi BACKOFF TIMER
MP10499	MP10499	US	16/566,378	9/10/2019			Pending	METHOD AND APPARATUS FOR TRANSMITTING SIGNALS OVER LONG DIS
MP10500	MP10500	US	16/583,639	9/26/2019			Pending	METHOD AND APPARATUS FOR TESTING A MULTIPLE INTEGRATED CIRC
MP10507	MP10507PR	US	62/770,047	11/20/2018			Pending	SELECT BANDWIDTH - REDUCE EMPTY Q NULL SELECT
MP10508	MP10508PR	US	62/771,890	11/27/2018			Pending	Effective Guaranteed Message Buffering
MP1066	MP1066PR	US	60/794,956					
MP11011	MP11011	US	16/525,105	7/29/2019			Pending	CONTROLLING PERFORMANCE OF A SOLID STATE DRIVE
MP11016	MP11016PR	US	62/790,701	1/10/2019			Pending	EFFICIENT FREQUENCY DOMAIN IMPLEMENTATION FOR FEED FORWARD
MP11022	MP11022	US	16/526,932	7/30/2019			Pending	Shared Memory Block Configuration
MP11039	MP11039	US	16/560,816	9/4/2019			Pending	CONFIGURABLE HASH-BASED LOOKUP IN NETWORK DEVICES

PATENT

REEL: 051660 FRAME: 0144

Family	IP Right ID	Country	Application Number	Ing Date	Patent Number	Issue Date	Status	Title
MP1103W	MP1103WP3	JP	2009-521752	7/11/2007	5057590	8/10/2012	In Force	CONTROL SYSTEM FOR A ROTATING DATA STORAGE DEVICE AND DATA S
MP1104S	MP1104SPR	US	62/790,708	1/10/2019			Pending	ARCHITECTURE FOR SUPPORTING MULTI-SPEED AND MULTI-PORT PACKE
MP11059	MP11059PR	US	62/836,536	4/19/2019			Pending	OPERATIONS AND MANAGEMENT (OAM) IN ETHERNET NETWORKS FOR
MP11081	MP11081PR	US	16/897,361	11/27/2019			Pending	NETWORK SWITCH WITH ENDPOINT AND DIRECT MEMORY ACCESS CON
MP11081	MP11081PR	US	62/772,506	11/28/2018			Pending	PCI SWITCH CONCEPT FOR AUTOMOTIVE APPLICATIONS
MP11081	MP11081WO	WO	PCT/US2019/06362	11/27/2019			Pending	NETWORK SWITCH WITH ENDPOINT AND DIRECT MEMORY ACCESS CON
MP11089	MP11089WO	WO	PCT/US2019/05922	10/31/2019			Pending	PADDING FOR WAKEUP RADIO (WUR) PACKETS
MP11090	MP11090WO	WO	PCT/US2019/05919	10/26/2019			Pending	Artificial Intelligence-Enabled Management of Storage Media Access
MP11096	MP11096KR	KR	0	10/30/2019			Not Filed	Thermal Compensation for Laser in Heat Assisted Magnetic Recording
MP11096	MP11096TW	TW	108139298	10/30/2019			Pending	Thermal Compensation for Laser in Heat Assisted Magnetic Recording
MP11096	MP11096WO	WO	PCT/US2019/05863	10/29/2019			Pending	Thermal Compensation for Laser in Heat Assisted Magnetic Recording
MP11102	MP11102PR	US	62/808,053	2/20/2019			Pending	High density fractional bit Solid State Drives using coded set partitions
MP11103	MP11103PR	US	62/808,072	2/20/2019			Pending	High density packing of memory cells and diversity gain extraction in a so
MP11104	MP11104	US	0				Not Filed	Secure WiFi
MP11105	MP11105PR	US	62/778,602	12/12/2018			Pending	Sector based association of STA with AP
MP11108	MP11108PR	US	62/767,999	11/15/2018			Pending	Feedforward IQ Imbalance Correction
MP11113	MP11113	US	0				Not Filed	Method of Using RAID to Recover Data Upon a Program Status Failure in
MP11113	MP11113CN	CN	0				Not Filed	Method of Using RAID to Recover Data Upon a Program Status Failure in
MP11113	MP11113EP	EP	0				Not Filed	Method of Using RAID to Recover Data Upon a Program Status Failure in
MP11113	MP11113KR	KR	0				Not Filed	Method of Using RAID to Recover Data Upon a Program Status Failure in
MP11113	MP11113PR	US	62/791,542	1/11/2019			Pending	Method of Using RAID to Recover Data Upon a Program Status Failure in
MP11113	MP11113TW	TW	0				Not Filed	Method of Using RAID to Recover Data Upon a Program Status Failure in
MP11119	MP11119PR	US	62/791,553	1/11/2019			Pending	Wide Input Common-Mode Folded-Cascade Amplifier with Adaptive Bias
MP11120	MP11120CN	CN	201911136433.9	11/19/2019			Pending	HYBRID ARQ WITH VARYING MODULATION AND CODING
MP11120	MP11120EP	EP	192096668.3	11/18/2019			Pending	HYBRID ARQ WITH VARYING MODULATION AND CODING
MP11120	MP11120PR	US	62/770,082	11/20/2018			Pending	Hybrid ARQ (HARQ) for link adaptation in WLAN
MP11122	MP11122PR	US	62/771,901	11/27/2018			Pending	Fully Flexible Assignment of Interrupt Requests in a Multifunction PCIe D
MP11123	MP11123PR	US	62/775,210	12/4/2018			Pending	EHT Packet Format Designs: DCMA Signaling
MP11124	MP11124PR	US	62/775,232	12/4/2018			Pending	EHT Packet Format Designs: Masking & CRC generation
MP11125	MP11125	US	16/703,694	12/4/2019			Pending	Reducing Offset of a Differential Signal Output by a Capacitive Coupling S
MP11125	MP11125PR	US	62/775,781	12/5/2018			Pending	Circuits and methods for reducing dynamic offset of capacitive coupling
MP11125	MP11125SG	SG	10201911728V	12/5/2019			Pending	Reducing Offset of a Differential Signal Output by a Capacitive Coupling S
MP11127	MP11127	US	16/702,983	12/4/2019			Pending	Balanced Current Mirrors for Biasing a Magnetic Resistor in a Hard Disk D
MP11127	MP11127PR	US	62/775,795	12/5/2018			Pending	Speed-balanced current mirror for magnetic resistor bias in HDD preamp

PATENT

REEL: 051660 FRAME: 0145

Family	IP Right ID	Country	Application Number	Ing Date	Parent Number	Issue Date	Status	Title
MP11128	MP11128PR	US	62/770,086	11/20/2018			Pending	DIFFERENT ENCODING/SIGNALING SCHEMES FOR A SEQUENCE OF DATA
MP11128	MP11128WO	WO	PCT/US2019/05992	11/19/2019			Pending	SIGNALING OF ENCODING SCHEMES IN PACKETS TRANSMITTED OVER A
MP11131	MP11131CN	CN	0				Not Filed	METHOD TO TRANSMIT DATA TO PREAMP THROUGH DIFFERENTIAL INTE
MP11131	MP11131EP	EP	0				Not Filed	METHOD TO TRANSMIT DATA TO PREAMP THROUGH DIFFERENTIAL INTE
MP11131	MP11131KR	KR	0				Not Filed	METHOD TO TRANSMIT DATA TO PREAMP THROUGH DIFFERENTIAL INTE
MP11131	MP11131PR	US	62/783,041	12/20/2018			Pending	METHOD TO TRANSMIT DATA TO PREAMP THROUGH DIFFERENTIAL INTE
MP11132	MP11132PR	US	62/771,920	11/27/2018			Pending	Plastic trim-wave Waveguide with Plastic Foam as insulator
MP11133	MP11133PR	US	62/808,647	2/21/2019			Pending	Distributed Multiple Input Multiple Output (DMIMO) at MAC Layer
MP11134	MP11134PR	US	62/808,703	2/21/2019			Pending	Dual use of solar cell as memory cell
MP11138	MP11138PR	US	62/780,082	12/14/2018			Pending	WiFi 11ax UL MULTI-USER MULTIPLE INPUT MULTIPLE OUTPUT (MU-MI
MP11139	MP11139PR	US	62/768,007	11/15/2018			Pending	General Error Reporting and Handling
MP11142	MP11142PR	US	62/799,598	1/31/2019			Pending	REDUCED SECURITY RISK OF AUTHENTICATION BETWEEN THE HOST AND
MP11143	MP11143PR	US	62/782,200	12/19/2018			Pending	Breathing Rate Detection System Using WiFi Signals
MP11144	MP11144CN	CN	0				Not Filed	ZONE SERVO SELF SERVO WRITE (SSW) WITH ZONED SPIRAL SERVO
MP11144	MP11144EP	EP	0				Not Filed	ZONE SERVO SELF SERVO WRITE (SSW) WITH ZONED SPIRAL SERVO
MP11144	MP11144KR	KR	0				Not Filed	ZONE SERVO SELF SERVO WRITE (SSW) WITH ZONED SPIRAL SERVO
MP11144	MP11144PR	US	62/782,211	12/19/2018			Pending	ZONE SERVO SELF SERVO WRITE (SSW) WITH ZONED SPIRAL SERVO
MP11144	MP11144TW	TW	0				Not Filed	ZONE SERVO SELF SERVO WRITE (SSW) WITH ZONED SPIRAL SERVO
MP11146	MP11146PR	US	62/803,204	2/8/2019			Pending	Exposed-die Heat-Sink design
MP11148	MP11148	US	0				Not Filed	Drive Health Management
MP11148	MP11148CN	CN	0				Not Filed	Drive Health Management
MP11148	MP11148EP	EP	0				Not Filed	Drive Health Management
MP11148	MP11148KR	KR	0				Not Filed	Drive Health Management
MP11148	MP11148PR	US	62/799,608	1/31/2019			Pending	Drive Health Management
MP11148	MP11148TW	TW	0				Not Filed	Drive Health Management
MP11150	MP11150PR	US	62/808,740	2/21/2019			Pending	BASIC SERVICE SET (BSS) INFORMATION BROADCAST FOR ASSOCIATION
MP11151	MP11151PR	US	62/777,653	12/10/2018			Pending	PROTECTION ON MULTI-MASTER ACCESS TO THE SHARED RESOURCES O
MP11152	MP11152PR	US	62/808,743	2/21/2019			Pending	5 GHz BAND CHANNELIZATION
MP11153	MP11153PR	US	62/790,716	1/10/2019			Pending	Automatically track analog front end response by digital method in com
MP11154	MP11154PR	US	62/783,052	12/20/2018			Pending	SHORT PREAMBLE DETECTION AND DOWNSHIFT
MP11155	MP11155PR	US	62/777,659	12/10/2018			Pending	BLOCKCHAIN BASED DECOMMISSIONING HDD/SSDS IN DATA CENTER
MP11155	MP11155PR2	US	62/839,537	4/4/2019			Pending	SELF-ENCRYPTION DRIVE (SED) ARCHITECTURE FOR DATA CENTER
MP11157	MP11157PR	US	62/808,750	2/21/2019			Pending	Method and apparatus to control and observe analog I/Os for testability
MP11158	MP11158PR	US	62/782,221	12/19/2018			Pending	PLACE & ROUTE BLOCKS PORTS/LOCATION FOR REUSE

PATENT

REEL: 051660 FRAME: 0146

Family	IP Right ID	Country	Application Number	Ing Date	Parent Number	Issue Date	Status	Title
MP11159	MP11159	US	0				Not Filed	SOLID-STATE DRIVE WITH INITIATOR MODE
MP11159	MP111592	US	0				Not Filed	NVMe-of Termination at the Drive Level
MP11159	MP111592CN	CN	0				Not Filed	NVMe-of Termination at the Drive Level
MP11159	MP111592EP	EP	0				Not Filed	NVMe-of Termination at the Drive Level
MP11159	MP111592KR	KR	0				Not Filed	NVMe-of Termination at the Drive Level
MP11159	MP111592TW	TW	0				Not Filed	NVMe-of Termination at the Drive Level
MP11159	MP11159CN	CN	0				Not Filed	SOLID-STATE DRIVE (SSD) INITIATOR MODE
MP11159	MP11159EP	EP	0				Not Filed	SOLID-STATE DRIVE (SSD) INITIATOR MODE
MP11159	MP11159KR	KR	0				Not Filed	SOLID-STATE DRIVE (SSD) INITIATOR MODE
MP11159	MP11159PR	US	62/783,060	12/20/2018			Pending	SOLID-STATE DRIVE (SSD) INITIATOR MODE
MP11159	MP11159PR2	US	62/818,557	3/14/2019			Pending	NVMe-of Termination at the Drive Level
MP11159	MP11159TW	TW	0				Not Filed	SOLID-STATE DRIVE (SSD) INITIATOR MODE
MP11160	MP11160PR	US	62/850,970	5/21/2019			Pending	Open Loop Feed-Forward Adaptive Bias Power Amplifier
MP11162	MP11162PR	US	62/798,231	1/29/2019			Pending	REDUCED AREA LOW LATENCY LATCH FIRST-IN FIRST OUT (FILO)
MP11162	MP11162PR2	US	62/821,316	3/20/2019			Pending	REDUCED AREA LOW LATENCY LATCH FIRST-IN FIRST OUT (FILO)
MP11163	MP11163CN	CN	0				Not Filed	forward timestamping
MP11163	MP11163PR	US	62/802,121	2/6/2019			Pending	forward timestamping
MP11165	MP11165PR	US	62/790,724	1/10/2019			Pending	HYBRID TERNARY CONTENT-ADDRESSABLE MEMORY (TCAM) EXACT MAT
MP11167	MP11167PR	US	62/802,126	2/6/2019			Pending	USXGMII PCH SUPPORT
MP11169	MP11169PR	US	62/798,240	1/29/2019			Pending	PROGRAMMABLE HEADER ALTERATION
MP11170	MP11170PR	US	62/791,559	1/11/2019			Pending	LINK LIST CONTROLLER UNIT
MP11173	MP11173PR	US	62/821,813	3/21/2019			Pending	Fast Dynamic Frequency Scaling Phase Locked Loop (PLL) with Wide Rang
MP11174	MP11174PR	US	62/823,497	3/25/2019			Pending	NEW PILOT DESIGN FOR NEXT GENERATION V2X (NGV)
MP11175	MP11175PR	US	62/831,596	4/9/2019			Pending	BASIC SERVICE SET (BSS) WITH MULTIPLE CHANNEL SEGMENTS OR >160
MP11175	MP11175PR2	US	62/845,749	5/9/2019			Pending	NEXT GENERATION WIRELESS 20MHz OPERATION
MP11178	MP11178PR	US	62/821,135	3/20/2019			Pending	Continuous time amplitude stabilization loop for crystal oscillators
MP11180	MP11180PR	US	62/803,220	2/8/2019			Pending	PACKET ACCUMULATOR
MP11182	MP11182PR	US	62/803,234	2/8/2019			Pending	Operational User Privilege Decrease For Non-Compliant Users
MP11183	MP11183PR2	US	62/938,836	11/21/2019			Pending	FLOW ANALYSIS AND MANAGEMENT
MP11185	MP11185PR	US	62/810,215	2/25/2019			Pending	METHOD AND APPARATUS USING A LOGIC ANALYZER TO DEBUG AN INTE
MP11186	MP11186PR	US	62/810,227	2/25/2019			Pending	METHOD AND APPARATUS FOR ACCELERATING MEMORY ACCESS
MP11187	MP11187PR	US	62/810,871	2/26/2019			Pending	Mapping cache method combining software and hardware
MP12123	MP12123PR	US	60/609,910					
MP12157	MP12157PR	US	60/669,655					

PATENT

REEL: 051660 FRAME: 0147

Family	IP Right ID	Country	Application Number	Ing Date	Parent Number	Issue Date	Status	Title
MP12186	MP12186	US	11/376,886					
MP12237	MP12237	US	11/874,752					
MP12263	MP12263	US	12/176,750	7/21/2008	8619558	12/31/2013	In Force	MEMORY MANAGEMENT IN A NETWORK ADAPTER
MP12300	MP12300PR	US	61/224,570					
MP12317	MP12317PR	US	61/330,803					
MP12322	MP12322C1	US	12/822,583					
MP12329	MP12329C1	US	12/881,402					
MP12340	MP12340C1	US	12/974,431					
MP12342	MP12342C1	US	13/012,711					
MP12400	MP12400PR	US	61/589,181					
MP12404	MP12404PR4	US	61/714,597					
MP12404	MP12404PR5	US	61/714,600					
MP1247W	MP1247WO	WO	PCT/US2007/01810	8/14/2007	DNA		Pending	INTERRUPT HANDLING
MP12785	MP12785	US	15/455,070	3/9/2017	10402201	9/3/2019	In Force	Method and Apparatus for Detecting Memory Conflicts Using Distinguish
MP12794	MP12794	US	15/722,986	10/2/2017			Pending	METHOD AND APPARATUS FOR CACHE PRE-FETCH WITH OFFSET DIRECTI
MP12803	MP12803	US	16/186,313	11/9/2018			Pending	SYSTEMS AND METHODS FOR PROGRAMMABLE HARDWARE ARCHITECT
MP12803	MP12803-2	US	16/226,508	12/19/2018			Pending	SINGLE INSTRUCTION SET ARCHITECTURE (ISA) FORMAT FOR MULTIPLE I
MP12803	MP12803-3	US	16/226,534	12/19/2018			Pending	STREAMING ENGINE FOR MACHINE LEARNING ARCHITECTURE
MP12803	MP12803-4	US	16/226,539	12/19/2018			Pending	ARRAY-BASED INFERENCE ENGINE FOR MACHINE LEARNING
MP12803	MP12803-5	US	16/226,550	12/19/2018			Pending	ARCHITECTURE FOR DENSE OPERATIONS IN MACHINE LEARNING INFERE
MP12803	MP12803-6	US	16/226,559	12/19/2018			Pending	ARCHITECTURE FOR IRREGULAR OPERATIONS IN MACHINE LEARNING INF
MP12803	MP12803-7	US	16/226,564	12/19/2018			Pending	ARCHITECTURE OF CROSSBAR OF INFERENCE ENGINE
MP12827	MP12827	US	16/224,601	12/18/2018			Pending	SYSTEM AND METHOD FOR DROOP DETECTION
MP12828	MP12828	US	16/224,638	12/18/2018			Pending	SYSTEM AND METHOD FOR COMPENSATING FOR A DROOP EVENT
MP12828	MP12828-2	US	16/224,638	12/18/2018			Pending	SYSTEM AND METHOD FOR COMPENSATING FOR A DROOP EVENT
MP12829	MP12829	US	16/173,877	10/29/2018			Pending	METHODS AND APPARATUS FOR JOB SCHEDULING IN A PROGRAMMABL
MP12831	MP12831	US	16/148,796	10/1/2018			Pending	METHODS AND APPARATUS FOR DYNAMIC ACKNOWLEDGEMENT LIST SE
MP12832	MP12832	US	16/384,878	4/15/2019			Pending	METHODS AND APPARATUS FOR TWO-STAGE ACK/DTX DETECTION
MP12834	MP12834	US	16/400,992	5/1/2019			Pending	Methods and Apparatus for Symbol-to-Symbol Multiplexing of Control, D
MP12835	MP12835	US	16/236,455	12/29/2018			Pending	METHODS AND APPARATUS FOR SUB-BLOCK BASED ARCHITECTURE OF C
MP12836	MP12836	US	16/404,029	5/6/2019			Pending	Methods and Apparatus for Providing A Demapping System to Demap Up
MP12837	MP12837	US	16/421,917	5/24/2019			Pending	METHODS AND APPARATUS FOR PROVIDING A RESOURCE ELEMENT (RE)
MP12838	MP12838	US	16/427,069	5/30/2019			Pending	METHODS AND APPARATUS FOR DESCRAMBLING RECEIVED UP/LINK TRA
MP12839	MP12839	US	16/434,057	6/6/2019			Pending	METHODS AND APPARATUS FOR COMBINING RECEIVED UP/LINK TRANSM

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Family	IP Right ID	Country	Application Number	Ing Date	Parent Number	Issue Date	Status	Title
MP12841	MP12841	US	16/457,863	6/28/2019			Pending	METHODS AND APPARATUS FOR DECODING RECEIVED UPLINK TRANSMISSIONS
MP12899	MP12899	US	15/595,308	5/15/2017	10402228	9/3/2019	In Force	Method and Apparatus for Assigning Processing Work in Parallel Computing
MP12899	MP12899D1	US	16/518,892	7/22/2019			Pending	Apparatus for Assigning Processing Work in Parallel Computing
MP12924	MP12924	US	16/110,957	8/23/2018			Pending	Methods And Apparatus For Simultaneous Multiprotocol Processing of Data
MP12930	MP12930	US	16/566,015	9/10/2019			Pending	METHOD OF CACHE PREFETCHING THAT INCREASES THE HIT RATE OF A NETWORK
MP12933	MP12933PR	US	62/841,202	4/30/2019			Pending	Method and Apparatus for Compressing Incoming Data Stream Using A Cyclic Redundancy Check
MP12934	MP12934PR	US	62/841,207	4/30/2019			Pending	Method and Apparatus for Compressing Incoming Data Stream via Probabilistic
MP12935	MP12935CN	CN	0				Not Filed	Discovery of Codeword Decoding Order in SIC Receiver Using Reinforcement Learning
MP12935	MP12935PR	US	62/843,419	5/4/2019			Pending	Methods and Apparatus for Discovering Codeword Decoding Order in SIC Receiver
MP12936	MP12936CN	CN	0				Not Filed	Methods and Apparatus for Providing an Adaptive Beam-Forming Antenna
MP12936	MP12936DE	DE	0				Not Filed	Methods and Apparatus for Providing an Adaptive Beam-Forming Antenna
MP12936	MP12936JP	JP	0				Not Filed	Methods and Apparatus for Providing an Adaptive Beam-Forming Antenna
MP12936	MP12936KR	KR	0				Not Filed	Methods and Apparatus for Providing an Adaptive Beam-Forming Antenna
MP12936	MP12936PR	US	62/846,661	5/11/2019			Pending	Methods and Apparatus for Providing an Adaptive Beam-Forming Antenna
MP12937	MP12937I1	US	16/419,994	5/22/2019			Pending	ARCHITECTURE TO SUPPORT TANH AND SIGMOID OPERATIONS FOR INFER
MP12938	MP12938I1	US	16/420,028	5/22/2019			Pending	ARCHITECTURE FOR TABLE-BASED MATHEMATICAL OPERATIONS FOR INFER
MP12939	MP12939I1	US	16/420,103	5/22/2019			Pending	DATA TRANSMISSION BETWEEN MEMORY AND ON CHIP MEMORY OF IN
MP12940	MP12940I1	US	16/420,055	5/22/2019			Pending	ARCHITECTURE TO SUPPORT COLOR SCHEME-BASED SYNCHRONIZATION
MP12941	MP12941I1	US	16/420,078	5/22/2019			Pending	ADDRESS INTERLEAVING FOR MACHINE LEARNING
MP12942	MP12942I1	US	16/420,092	5/22/2019			Pending	ARCHITECTURE TO SUPPORT SYNCHRONIZATION BETWEEN CORE AND IN
MP13000	MP13000PR	US	62/850,988	5/21/2019			Pending	SLEEP TIME COMPUTATION IN IEEE 802.11
MP13001	MP13001PR	US	62/868,341	6/28/2019			Pending	Methods and Apparatus for Signal Bandwidth detection in WiFi Systems
MP13002	MP13002PR	US	62/837,093	4/22/2019			Pending	BLIND EQUALIZER SIGN ERROR LAST MEAN SQUARES (LMS) ALGORITHM
MP13003	MP13003PR	US	62/850,998	5/21/2019			Pending	Accelerate Key Access
MP13004	MP13004PR	US	62/816,747	3/11/2019			Pending	METHODS OF PORTING SYSTEM LEVEL TEST TO AUTOMATED TEST EQUIPMENT
MP13006	MP13006PR	US	62/852,580	5/24/2019			Pending	P-N TRANSISTORS SPEED CHARACTERIZATION METHOD AND IMPLEMENTATION
MP13007	MP13007PR	US	62/837,100	4/22/2019			Pending	Send-S 2D Detector For Autophy 1000BASE-T1
MP13008	MP13008PR	US	62/816,759	3/11/2019			Pending	SOLID-STATE DRIVE (SSD) ERROR RECOVERY FLOW BASED ON REINFORCEMENT
MP13010	MP13010PR	US	62/816,760	3/11/2019			Pending	SELF SERVO WRITE PATTERN FREQUENCY MODIFICATION
MP13011	MP13011PR	US	62/832,741	4/11/2019			Pending	RESOURCE UNIT (RU) INDICATION FOR UPLINK (UL) MULTI-USER (MU) OR
MP13012	MP13012PR	US	62/823,504	3/25/2019			Pending	BASIC SERVICE SET (BSS) WITH MULTIPLE CHANNEL SEGMENTS OR >160
MP13012	MP13012PR2	US	62/831,593	4/9/2019			Pending	Next Generation Wireless 20MHz Operation
MP13012	MP13012PR3	US	62/870,437	7/3/2019			Pending	BASIC SERVICE SET (BSS) WITH MULTIPLE CHANNEL SEGMENTS OR >160
MP13013	MP13013PR	US	62/821,933	3/21/2019			Pending	RESOURCE UNIT (RU) INDICATION FOR DOWNLINK (DL) MULTI-USER (MU)

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Family	IP Right ID	Country	Application Number	Ing Date	Parent Number	Issue Date	Status	Title
MP13014	MP13014CN	CN	201910169178.1	3/6/2019			Pending	A METHOD AND AN APPARATUS FOR WAKING A PHYSICAL LAYER OF A FI
MP13016	MP13016PR	US	62/852,597	5/24/2019			Pending	DUMMY DIE REPLACEMENT FOR PERIPHERAL DIE ON MCM PACKAGE
MP13017	MP13017PR	US	62/821,936	3/21/2019			Pending	ACCESS POINT (AP) COORDINATED ORTHOGONAL FREQUENCY MULTIPLE
MP13017	MP13017PR2	US	62/837,106	4/22/2019			Pending	ACCESS POINT (AP) COORDINATED ORTHOGONAL FREQUENCY MULTIPLE
MP13017	MP13017PR3	US	62/934,452	11/12/2019			Pending	ACCESS POINT (AP) COORDINATED ORTHOGONAL FREQUENCY MULTIPLE
MP13019	MP13019PR	US	62/810,785	2/26/2019			Pending	Random Access Interleaved Sectors for Magnetic Recording
MP13020	MP13020PR	US	62/832,757	4/11/2019			Pending	EXTRA HIGH THROUGHPUT (EHT) AGGREGATED PLCP PROTOCOL DATA U
MP13021	MP13021PR	US	62/849,043	5/16/2019			Pending	BASIC SERVICE SET (BSS) OPERATION WITH BAND AGGREGATION - CAPA
MP13021	MP13021PR2	US	62/877,207	7/22/2019			Pending	BASIC SERVICE SET (BSS) OPERATION WITH BAND AGGREGATION - CAPA
MP13025	MP13025PR	US	62/832,764	4/11/2019			Pending	EXTRA HIGH THROUGHPUT (EHT) AGGREGATED PLCP PROTOCOL DATA U
MP13026	MP13026PR	US	62/814,195	3/5/2019			Pending	ADAPTIVE SINGLE SOLID-STATE (SSD) CONTROLLER BANDWIDTH TO RED
MP13027	MP13027	US	16/578,478	9/23/2019			Pending	Multi-Protocol Frame Format
MP13028	MP13028PR	US	62/866,466	6/25/2019			Pending	SYNCHRONOUS WRITE PATTERN FREQUENCY MODIFICATION
MP13029	MP13029PR	US	62/832,768	4/11/2019			Pending	In-band sleep/wake-up command and status
MP13030	MP13030PR	US	62/816,765	3/11/2019			Pending	Full Duplex data transmission via TDM data transmission over channel ru
MP13032	MP13032PR	US	62/816,767	3/11/2019			Pending	ASYMMETRICAL AUTOMOTIVE ETHERNET PHY
MP13050	MP13050PR	US	62/934,436	11/12/2019			Pending	DATACENTER ON WHEELS
MP13051	MP13051	US	0				Not Filed	Peer-to-peer NVMe-of-SSD Communication over Fabric Without Host/Co
MP13051	MP13051PR	US	62/818,566	3/14/2019			Pending	Peer-to-peer NVMe-of-SSD Communication over Fabric Without Host/Co
MP13052	MP13052PR	US	62/818,621	3/14/2019			Pending	NVMe-of SOLID-STATE DRIVE (SSD)
MP13055	MP13055PR	US	62/866,285	6/25/2019			Pending	Machine Learning Switch for Real Time Automotive System Monitoring
MP13058	MP13058PR	US	62/854,812	5/30/2019			Pending	Qualification tests of Channel state information (CSI) Reports in WLAN
MP13060	MP13060PR	US	62/860,192	6/11/2019			Pending	Ring Oscillator Based Temperature Sensor with Low Supply Sensitivity
MP13061	MP13061PR	US	62/854,820	5/30/2019			Pending	BASIC SERVICE SET (BSS) WITH MULTIPLE CHANNEL SEGMENTS: BACKO
MP13064	MP13064PR	US	62/934,442	11/12/2019			Pending	RAPID DETECTION OF 100 OR 1000 BASE-T1 ON SLAVE SIDE
MP13065	MP13065PR	US	62/869,906	7/2/2019			Pending	Multi frequency spiral track
MP13067	MP13067PR	US	62/852,612	5/24/2019			Pending	BASIC SERVICE SET (BSS) WITH BAND AGGREGATION - POWER SAVE AN
MP13067	MP13067PR2	US	62/879,801	7/29/2019			Pending	BASIC SERVICE SET (BSS) WITH BAND AGGREGATION - POWER SAVE AND
MP13067	MP13067PR3	US	62/886,812	8/14/2019			Pending	BASIC SERVICE SET (BSS) WITH BAND AGGREGATION - POWER SAVE AN
MP13067	MP13067PR4	US	62/888,950	8/19/2019			Pending	BASIC SERVICE SET (BSS) WITH BAND AGGREGATION - POWER SAVE AN
MP13067	MP13067PR5	US	62/897,155	9/6/2019			Pending	BASIC SERVICE SET (BSS) WITH BAND AGGREGATION - POWER SAVE AN
MP13068	MP13068PR	US	62/854,834	5/30/2019			Pending	TRAFFIC SPECIFICATION ANNOUNCEMENT FOR TARGET WAKE TIME (TW
MP13069	MP13069PR	US	62/857,646	6/5/2019			Pending	VHTSGB EQUALIZATION
MP13073	MP13073PR	US	62/857,656	6/5/2019			Pending	Split-Cascade Transistors Technique for 50% Duty Cycle Passive Mixer

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Family	IP Right ID	Country	Application Number	Ing Date	Patent Number	Issue Date	Status	Title
MP13076	MP13076PR	US	62/852,620	5/24/2019			Pending	HIGH SPEED SUCCESSIVE APPROXIMATION REGISTER (SAR) ANALOG-TO-
MP13077	MP13077PR	US	62/863,699	6/19/2019			Pending	MULTI-BAND OPERATION: SYNCHRONIZED AND UNSYNCHRONIZED
MP13079	MP13079PR	US	62/863,713	6/19/2019			Pending	MULTI-BAND OPERATION: SINGLE BAND STATION (STA) AND LEGACY STA
MP13081	MP13081PR	US	62/853,635	5/28/2019			Pending	ACCESS POINT (AP) POWER SAVE: BASIC SERVICE SET (BSS) QUIET PERIOD
MP13082	MP13082PR	US	62/854,841	5/30/2019			Pending	METHOD AND APPARATUS FOR EFFICIENTLY INCREASING THE AVAILABIL
MP13083	MP13083PR	US	62/869,916	7/2/2019			Pending	METHOD OF REAL-TIME INTEGRATED CIRCUIT (IC) CHIP ROBUSTNESS DET
MP13085	MP13085PR	US	62/857,661	6/5/2019			Pending	Gain-Boosted Transformer Coupled Common Gate Low-Noise Amplifier
MP13086	MP13086PR	US	62/857,666	6/5/2019			Pending	HYBRID ARQ (HARQ) TRANSMISSION ENABLER-ENCODER AND PREAMBLE
MP13087	MP13087PR	US	62/859,553	6/10/2019			Pending	NULL DATA PACKET (NDP) POWER CONTROL FOR ERROR VECTOR MAGNI
MP13089	MP13089PR	US	62/859,560	6/10/2019			Pending	BALL GRID ARRAY (BGA) PACKAGE UPPER CONNECTION TO MEMORY MO
MP13091	MP13091PR	US	62/866,475	6/25/2019			Pending	ENCODING PROCESS AND PRE-FORWARD ERROR CORRECTION (FEC) PAD
MP13092	MP13092PR	US	62/869,926	7/2/2019			Pending	Low Leakage Highly Reliable Continuous Diffusion Structures and Method
MP13094	MP13094PR	US	62/875,419	7/17/2019			Pending	DIGITALLY ASSISTED PROCESS AND TEMPERATURE AWARE ULTRA-FAST B
MP13096	MP13096PR	US	62/875,432	7/17/2019			Pending	DOUBLE PARITY RAID IMPLEMENTATION IN SSD CONTROLLERS
MP13099	MP13099PR	US	62/879,781	7/29/2019			Pending	VERIFICATION SHADOW PIPE
MP13101	MP13101PR	US	62/879,789	7/29/2019			Pending	On-Chip High Density Capacitor, Structures and Method of Making the Sa
MP13102	MP13102PR	US	62/886,822	8/14/2019			Pending	HARDWARE BASED SUCCESSIVE INTERFERENCE CANCELLATION (SIC) USI
MP13105	MP13105PR	US	62/876,452	7/19/2019			Pending	IMPLEMENTING TRANSLATION LOOK-ASIDE BUFFER INVALIDATE (TIB) A
MP13106	MP13106PR	US	62/876,460	7/19/2019			Pending	Multi-level Correlated Prefetcher for an Out-of-Order Processor Core
MP13107	MP13107PR	US	62/876,468	7/19/2019			Pending	Using Backpressure Latency to Adjust Prefetch Lockup Distance in Out-of
MP13108	MP13108PR	US	62/876,492	7/19/2019			Pending	Vector Prefetcher in an Out-of-Order Core
MP13109	MP13109PR	US	62/876,499	7/19/2019			Pending	Long-range Schedules for an Out-of-Order Core
MP13110	MP13110PR	US	62/876,505	7/19/2019			Pending	SOFTWARE-DIRECTED OUT-OF-ORDER EXECUTED WITHOUT EXCEPTIONS
MP13111	MP13111PR	US	62/875,439	7/17/2019			Pending	FREQUENCY SCALING TO REDUCE BOOT TIME
MP13113	MP13113PR	US	62/879,795	7/29/2019			Pending	OBJECT-ORIENTED MEMORY
MP13115	MP13115PR	US	62/871,541	7/8/2019			Pending	METHOD FOR SYNCHRONIZING TIME REFERENCES ON MULTIPLE DEVICES
MP13117	MP13117PR	US	62/927,584	10/29/2019			Pending	BLIND EQUALIZER FOR HIGH ORDER PULSE AMPLITUDE MODULATION (P
MP13118	MP13118PR	US	62/893,070	8/28/2019			Pending	Pre-Code for A Two-Way Asymmetrical PHY over a single pair of cable
MP13124	MP13124PR	US	62/936,238	11/15/2019			Pending	SYSTEM AND TECHNIQUE FOR IMPROVING RADIATED IMMUNITY AND E
MP13125	MP13125PR	US	62/936,244	11/15/2019			Pending	"LOOP INDUCTANCE NOISE CANCELLATION" TO SOLVE TRANSIENT ISSUE
MP13127	MP13127PR	US	62/943,682	12/4/2019			Pending	Apparatus of Implementing 2-port read and 1-port write using 8T SRAM c
MP13129	MP13129PR	US	62/943,690	12/4/2019			Pending	Using Machine Learning to Manipulate Memory Accesses to Alter Aspect
MP13130	MP13130PR2	US	62/909,080	10/1/2019			Pending	MULTI-BAND OPERATION: AGGREGATE MAC PROTOCOL DATA UNIT (A-M
MP13130	MP13130PR3	US	62/934,418	11/12/2019			Pending	MULTI-BAND OPERATION: AGGREGATE MAC PROTOCOL DATA UNIT (A-M

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Family	IP Right ID	Country	Application Number	Ing Date	Patent Number	Issue Date	Status	Title
MP13143	MP13143PR	US	62/927,588	10/29/2019			Pending	CROSS ENTROPY BASED ADAPTATION OF LINEAR FINITE IMPULSE RESP
MP13144	MP13144PR	US	62/927,591	10/29/2019			Pending	CROSS ENTROPY BASED ADAPTATION OF TARGET AND LINEAR FINITE IM
MP13145	MP13145PR	US	62/943,692	12/4/2019			Pending	CROSS ENTROPY BASED ADAPTATION OF NON-LINEAR FINITE IMPULSE R
MP13146	MP13146PR	US	62/943,699	12/4/2019			Pending	MODIFIED BRANCH-METRIC FOR NON-LINEAR FINAL IMPULSE RESPONSE
MP13155	MP13155PR	US	62/916,105	10/16/2019			Pending	Ultra-Core CPU for High Performance Chips
MP13157	MP13157	US	16/708,085	12/9/2019			Pending	Self-Encryption Drive (SED)
MP13157	MP13157C1	US	16/708,203	12/9/2019			Pending	Self-Encryption Drive (SED)
MP13157	MP13157CN	CN	201911262133.5	12/10/2019			Pending	METHOD AND APPARATUS FOR DECOMMISSIONING A HARD DISK DRIVE
MP13157	MP13157EP	EP	19214955.7	12/10/2019			Pending	METHOD AND APPARATUS FOR DECOMMISSIONING A HARD DISK DRIVE
MP13157	MP13157KR	KR	0	12/10/2019			Not Filed	METHOD AND APPARATUS FOR DECOMMISSIONING A HARD DISK DRIVE
MP13157	MP13157PR	US	62/934,701	11/13/2019			Pending	METHOD AND APPARATUS FOR DECOMMISSIONING A HARD DISK DRIVE
MP13159	MP13159PR	US	62/916,113	10/16/2019			Pending	Shingled Magnetic Recording using data compression
MP13160	MP13160PR	US	62/912,495	10/8/2019			Pending	Methodology for Effective interleaving in Random Access interleaved Sol
MP13166	MP13166	US	0				Not Filed	Method and apparatus for HW efficient implementation of int9 quantizat
MP13168	MP13168	US	0				Not Filed	DCM port throttling for bandwidth
MP13169	MP13169	US	0				Not Filed	Mesh architecture for high bandwidth broadcast, multicast network
MP13171	MP13171	US	0				Not Filed	Mechanism to manage power to a power profile by throttling performan
MP13172	MP13172	US	0				Not Filed	Throttling mechanism for managing thermal and power --- pulse squashtn
MP13183	MP13183	US	0				Not Filed	INSTRUCTION SCHEDULING ALGORITHM TO PREVENT SIDE-CHANNEL ATT
MP13183	MP13183PR	US	62/944,243	12/5/2019			Pending	INSTRUCTION SCHEDULING ALGORITHM TO PREVENT SIDE-CHANNEL ATT
MP13184	MP13184	US	0				Not Filed	DYNAMICALLY MARKING INSTRUCTIONS AS SENSITIVE TO ALLOW HARD
MP13184	MP13184PR	US	62/944,245	12/5/2019			Pending	DYNAMICALLY MARKING INSTRUCTIONS AS SENSITIVE TO ALLOW HARD
MP13185	MP13185	US	0				Not Filed	MICROARCHITECTURAL TAG FLOW FOR SENSITIVE INSTRUCTIONS TO PR
MP13185	MP13185PR	US	62/944,251	12/5/2019			Pending	MICROARCHITECTURAL TAG FLOW FOR SENSITIVE INSTRUCTIONS TO PR
MP13186	MP13186	US	0				Not Filed	USE OF RIGHT TO REPLACE TO PROTECT AGAINST PRIME-AND-PROBE SID
MP13186	MP13186PR	US	62/944,263	12/5/2019			Pending	USE OF RIGHT TO REPLACE TO PROTECT AGAINST PRIME-AND-PROBE SID
MP13187	MP13187	US	0				Not Filed	PREVENTING SIDE-CHANNEL ATTACKS BY INTRODUCING NOISY INSTRUCT
MP13187	MP13187PR	US	62/944,265	12/5/2019			Pending	PREVENTING SIDE-CHANNEL ATTACKS BY INTRODUCING NOISY INSTRUCT
MP13189	MP13189	US	0				Not Filed	MICROPARTITIONS TO PREVENT SPECULATION-BASED SECURITY ATTACK
MP13189	MP13189PR	US	62/944,269	12/5/2019			Pending	MICROPARTITIONS TO PREVENT SPECULATION-BASED SECURITY ATTACK
MP13194	MP13194PR	US	62/936,732	11/15/2019			Pending	CAR AS AN "OPEN PLATFORM"
MP13206	MP13206PR	US	62/944,274	12/5/2019			Pending	Using Differential Cache Block Size in the Processor Core and DDR channe
MP13208	MP13208PR	US	62/944,278	12/5/2019			Pending	Implementing Last-Level Cache Way Allocation with a Processor Core Tha
MP1433K	MP1433KR	KR	20047010461	12/31/2002	10-647963	11/13/2006	In Force	ROBUST LOW-COMPLEXITY MULTI-ANTENNA ADAPTIVE MINIMUM MEA

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Family	IP Right ID	Country	Application Number	Ing Date	Patent Number	Issue Date	Status	Title
MP1477	MP1477	US	10/329,124					
MP1578W	MP1578W/OIP	JP	2009-538416	11/27/2007	5153782	12/14/2012	In Force	SIMPLIFIED AUTO-CONFIGURATION AND SERVICE DISCOVERY IN AD-HOC
MP1753E	MP1753EP	EP	08731267.4	3/3/2008	EP2114686	5/16/2012	In Force	INK SUPPLY FOR A HAND-HELD INK JET PRINTER
MP1753E	MP1753EP/DE	DE	8731267.4	3/3/2008	2114686	5/16/2012	In Force	INK SUPPLY FOR HAND-HELD INKJET PRINTER
MP1753E	MP1753EP/FR	FR	8731267.4	3/3/2008	2114686	5/16/2012	In Force	INK SUPPLY FOR HAND-HELD INKJET PRINTER
MP1753E	MP1753EP/GB	GB	8731267.4	3/3/2008	2114686	5/16/2012	In Force	INK SUPPLY FOR HAND-HELD INKJET PRINTER
MP1835J	MP1835JP	JP	2010-503188	4/9/2008			Pending	APPARATUSES, SYSTEMS, SOFTWARE AND METHODS FOR WIRELESS INTE
MP1979W	MP1979W/O	WO	PCT/US2008/06716	6/16/2008			Pending	EXECUTING OPERATIONS IN CONNECTION WITH ONE MORE IMAGES WIT
MP2012W	MP2012W/O	WO	PCT/US2008/06918	7/3/2008			Pending	Location Aware Ad-Hoc Gaining
MP2325	MP2325/IC1	US	13/924,333	6/21/2013	9294130	3/22/2016	In Force	QUASI-CYCLIC LOW-DENSITY PARITY-CHECK (QC-LDPC) ENCODER
MP2522	MP2522/PR	US	61/039,772					
MP2729W	MP2729W/QBR	BR	P/0909917-4	7/9/2009			Pending	UPLINK POWER CONTROL IN AGGREGATED SPECTRUM SYSTEMS
MP2744	MP2744/C1	US	13/928,771	6/27/2013	9055296	6/9/2015	In Force	Processing Rasterized Data
MP3004	MP3004/IC1	US	14/089,501	11/25/2013	9122590	9/11/2015	In Force	Flash Memory Read Performance
MP3008	MP3008/IC1	US	14/462,821	8/19/2014	9695832	7/4/2017	In Force	Apparatuses for Controlling Operation Of A Motor Of A Fan Assembly Ba
MP3149I	MP3149I/WO	WO	PCT/IB2011/05001	1/4/2011			Pending	SIGNALING OF DEDICATED REFERENCE SIGNAL (DRS) PRECODING GRANU
MP3262W	MP3262W/O	WO	PCT/US2010/03535	5/19/2010			Pending	TRANSMIT ARCHITECTURE FOR WIRELESS MULTI-MODE APPLICATIONS
MP4137A	MP4137A/WI	IP	548675/2010	2/18/2009	JP5308460	7/5/2013	In Force	FREQUENCY DOMAIN ECHO & NEXT CANCELLATION
MP4560S	MP4560S/WO	WO	10/521,198	7/9/2003	7644190	1/5/2010	In Force	METHOD AND APPARATUS FOR PIPELINED PROCESSING OF DATA PACKET
MP4563	MP4563/SUWA	US	13/457,001	4/26/2012	8522246	8/27/2013	In Force	METHOD FOR PACKET FLOW CONTROL USING CREDIT PARAMETERS WIT
MP4563	MP4563/SUWZ	US	13/960,954	8/7/2013	8997105	3/31/2015	In Force	METHOD FOR PACKET FLOW CONTROL USING CREDIT PARAMETERS WIT
MP4568S	MP4568S/WO	WO	10/542,986	1/27/2004	7644256	1/5/2010	In Force	METHOD IN PIPELINED DATA PROCESSING
MP4572S	MP4572S/WO	WO	10/470,096	5/21/2001	7010673	3/7/2006	In Force	APPARATUS AND METHOD FOR PROCESSING PIPELINED DATA
MP4832	MP4832	US	14/180,990	2/14/2014	9408274	8/2/2016	In Force	Light Emitting Diodes Generating White Light
MP5208	MP5208/PR	US	61/763,344					
MP5348	MP5348/PR	US	61/832,067					
MP5424	MP5424/1	US	15/069,483	3/14/2016	9699545	7/4/2017	In Force	LOW-POWER METHOD AND CIRCUITRY OF DETERMINING HEADPHONE T
MP5483	MP5483	US	14/515,363	10/15/2014			Pending	METHODS AND NETWORK DEVICE FOR PERFORMING CUT-THROUGH
MP6256	MP6256/PRSG	SG	10201400541	3/11/2014			Pending	NESTED COIL CONFIGURATION WITH MULTI-TIER MAGNETS FOR HD AQA
MP6385	MP6385	US	15/886,728	2/1/2018			Pending	Methods and Apparatus for Partially Encrypted Firmware

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REEL: 051660 FRAME: 0153

RECORDED: 01/29/2020