

## PATENT ASSIGNMENT COVER SHEET

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|                                    |                                              |                       |
|------------------------------------|----------------------------------------------|-----------------------|
| <b>SUBMISSION TYPE:</b>            | NEW ASSIGNMENT                               |                       |
| <b>NATURE OF CONVEYANCE:</b>       | ASSIGNMENT                                   |                       |
| <b>CONVEYING PARTY DATA</b>        |                                              |                       |
| <b>Name</b>                        |                                              | <b>Execution Date</b> |
| GLOBALFOUNDRIES US INC.            |                                              | 12/23/2020            |
| <b>RECEIVING PARTY DATA</b>        |                                              |                       |
| <b>Name:</b>                       | MEDIATEK INC.                                |                       |
| <b>Street Address:</b>             | NO. 1, DUSING 1ST RD. , HSINCHU SCIENCE PARK |                       |
| <b>City:</b>                       | HSINCHU CITY                                 |                       |
| <b>State/Country:</b>              | TAIWAN                                       |                       |
| <b>Postal Code:</b>                | 30078                                        |                       |
| <b>PROPERTY NUMBERS Total: 162</b> |                                              |                       |
| <b>Property Type</b>               | <b>Number</b>                                |                       |
| Patent Number:                     | 8471614                                      |                       |
| Patent Number:                     | 6993671                                      |                       |
| Patent Number:                     | 7472320                                      |                       |
| Patent Number:                     | 9461850                                      |                       |
| Patent Number:                     | 8716869                                      |                       |
| Patent Number:                     | 8184677                                      |                       |
| Patent Number:                     | 7085548                                      |                       |
| Patent Number:                     | 7096290                                      |                       |
| Patent Number:                     | 7225290                                      |                       |
| Patent Number:                     | 6922738                                      |                       |
| Patent Number:                     | 7016994                                      |                       |
| Patent Number:                     | 7020485                                      |                       |
| Patent Number:                     | 7184729                                      |                       |
| Patent Number:                     | 7003271                                      |                       |
| Patent Number:                     | 6856946                                      |                       |
| Patent Number:                     | 7225288                                      |                       |
| Patent Number:                     | 7058381                                      |                       |
| Patent Number:                     | 7050762                                      |                       |
| Patent Number:                     | 7492747                                      |                       |
| Patent Number:                     | 7836359                                      |                       |

PATENT

| Property Type  | Number   |
|----------------|----------|
| Patent Number: | 9384064  |
| Patent Number: | 8650523  |
| Patent Number: | 7058779  |
| Patent Number: | 10012687 |
| Patent Number: | 7184714  |
| Patent Number: | 7356108  |
| Patent Number: | 7502474  |
| Patent Number: | 7725905  |
| Patent Number: | 7263457  |
| Patent Number: | 7257678  |
| Patent Number: | 7296167  |
| Patent Number: | 7702888  |
| Patent Number: | 7685410  |
| Patent Number: | 7818542  |
| Patent Number: | 7818543  |
| Patent Number: | 7793080  |
| Patent Number: | 7877559  |
| Patent Number: | 7750711  |
| Patent Number: | 7840873  |
| Patent Number: | 8099557  |
| Patent Number: | 8219994  |
| Patent Number: | 8280040  |
| Patent Number: | 8195887  |
| Patent Number: | 8099541  |
| Patent Number: | 8352670  |
| Patent Number: | 9665436  |
| Patent Number: | 8432409  |
| Patent Number: | 8368710  |
| Patent Number: | 7426621  |
| Patent Number: | 7694075  |
| Patent Number: | 8001363  |
| Patent Number: | 8578134  |
| Patent Number: | 7636780  |
| Patent Number: | 7772889  |
| Patent Number: | 8103941  |
| Patent Number: | 8677404  |
| Patent Number: | 8195962  |
| Patent Number: | 8276039  |

| Property Type  | Number  |
|----------------|---------|
| Patent Number: | 7035983 |
| Patent Number: | 7177379 |
| Patent Number: | 7055006 |
| Patent Number: | 6892314 |
| Patent Number: | 8140034 |
| Patent Number: | 9329890 |
| Patent Number: | 9086974 |
| Patent Number: | 9507599 |
| Patent Number: | 9678885 |
| Patent Number: | 9197584 |
| Patent Number: | 9219696 |
| Patent Number: | 7403057 |
| Patent Number: | 9501128 |
| Patent Number: | 7039755 |
| Patent Number: | 6748545 |
| Patent Number: | 7065654 |
| Patent Number: | 7216362 |
| Patent Number: | 6823451 |
| Patent Number: | 6832317 |
| Patent Number: | 7039146 |
| Patent Number: | 7631160 |
| Patent Number: | 8060882 |
| Patent Number: | 7305675 |
| Patent Number: | 7197768 |
| Patent Number: | 8135962 |
| Patent Number: | 7493498 |
| Patent Number: | 6804799 |
| Patent Number: | 6832327 |
| Patent Number: | 6795927 |
| Patent Number: | 6862641 |
| Patent Number: | 7315301 |
| Patent Number: | 7030877 |
| Patent Number: | 7694110 |
| Patent Number: | 7043679 |
| Patent Number: | 8359494 |
| Patent Number: | 7096323 |
| Patent Number: | 7334102 |
| Patent Number: | 7266673 |

| Property Type  | Number  |
|----------------|---------|
| Patent Number: | 8069336 |
| Patent Number: | 7133969 |
| Patent Number: | 6873184 |
| Patent Number: | 7373484 |
| Patent Number: | 7366885 |
| Patent Number: | 7305663 |
| Patent Number: | 7165172 |
| Patent Number: | 7130951 |
| Patent Number: | 6924682 |
| Patent Number: | 7827355 |
| Patent Number: | 7135884 |
| Patent Number: | 7256627 |
| Patent Number: | 7154309 |
| Patent Number: | 7657690 |
| Patent Number: | 7231474 |
| Patent Number: | 7558687 |
| Patent Number: | 7389402 |
| Patent Number: | 7561625 |
| Patent Number: | 7765425 |
| Patent Number: | 7464255 |
| Patent Number: | 8127098 |
| Patent Number: | 7418584 |
| Patent Number: | 7792385 |
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| Patent Number: | 7729465 |
| Patent Number: | 7506222 |
| Patent Number: | 7596742 |
| Patent Number: | 7650550 |
| Patent Number: | 7913103 |
| Patent Number: | 7543131 |
| Patent Number: | 7783954 |
| Patent Number: | 7873770 |
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| Patent Number: | 7602217 |

| Property Type  | Number  |
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| Patent Number: | 7653803 |
| Patent Number: | 7809923 |
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| Patent Number: | 8250354 |
| Patent Number: | 8028185 |
| Patent Number: | 8156362 |
| Patent Number: | 8112648 |
| Patent Number: | 8112647 |
| Patent Number: | 8176303 |
| Patent Number: | 7813815 |
| Patent Number: | 6876252 |
| Patent Number: | 8103910 |
| Patent Number: | 8527740 |
| Patent Number: | 8301847 |
| Patent Number: | 8489821 |
| Patent Number: | 8756379 |
| Patent Number: | 8850127 |
| Patent Number: | 8410816 |
| Patent Number: | 9524166 |
| Patent Number: | 9100042 |
| Patent Number: | 9088297 |
| Patent Number: | 7119578 |
| Patent Number: | 7692561 |
| Patent Number: | 8321865 |
| Patent Number: | 8627291 |
| Patent Number: | 7043626 |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                                                                                                                   | 251367-9070         |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                                                                                                                        | DANIEL R. MCCLURE   |
| <b>SIGNATURE:</b>                                                                                                                                                                                                                                                                                | /Daniel R. McClure/ |
| <b>DATE SIGNED:</b>                                                                                                                                                                                                                                                                              | 01/29/2021          |
| <b>Total Attachments: 9</b><br>source=00862342#page1.tif<br>source=00862342#page2.tif<br>source=00862342#page3.tif<br>source=00862342#page4.tif<br>source=00862342#page5.tif<br>source=00862342#page6.tif<br>source=00862342#page7.tif<br>source=00862342#page8.tif<br>source=00862342#page9.tif |                     |

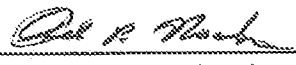
Patent Assignment and Reservation

For good and valuable consideration, the receipt of which is hereby acknowledged, and subject to the reservations stated in the Patent Assignment Agreement Reference No. PA20200005 between the parties ("Patent Assignment Agreement"), GLOBALFOUNDRIES US Inc., a Delaware corporation having a place of business at 2600 Great America Way, Santa Clara, CA 95054, United States of America (hereinafter "ASSIGNOR"), hereby grants and assigns to MEDIATEK INC., a Taiwan corporation having a place of business at No. 1, Dusing 1st Rd., Hsinchu Science Park, Hsinchu City 30078, Taiwan (hereinafter "ASSIGNEE"), effective as of November 27, 2020, all of ASSIGNOR's right, title and interest in and to the United States Letters Patents, and Non-United States Patents identified in Exhibits A and B, respectively, attached hereto, (hereinafter, collectively, "SUBJECT PATENTS"), to have and to hold the same, unto ASSIGNEE for its own use and enjoyment and for the use and enjoyment of its successors and assigns, including all damages for infringement of any of the Subject Patents accruing on and after November 27, 2020 ("the Effective Date") and the right to sue therefore under such Subject Patents, for the full term or terms of all such SUBJECT PATENTS, subject to all rights granted under the SUBJECT PATENTS to third parties prior to said Effective Date.

ASSIGNOR hereby reserves and retains, for the benefit of itself and its affiliates and its and their successors and assigns, the rights and licenses set forth in the Patent Assignment Agreement.

IN WITNESS WHEREOF, ASSIGNOR and ASSIGNEE have caused this Patent Assignment and Reservation to be duly signed on their respective behalf.

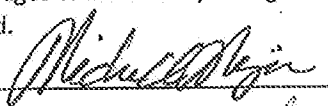
**ASSIGNOR**

Signature:   
Name: Adam Pierre Michael Noah  
Title: VP & Chief IP Counsel

State of California )  
 ) S.S.  
County of San Mateo )

Before me this 23<sup>rd</sup> day of December, 2020, personally appeared Adam Pierre Michael Noah

to me known to be the person who is described in and who signed the foregoing Assignment and acknowledged to me that he/she signed the same of his/her own free will for the purpose therein expressed.

 Notary Public

**ASSIGNEE**

Signature:  Date: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_



**EXHIBIT A**  
**US Patents**

| Patent No. | Application No. | Country | Title                                                                                                                               | File Date  | Grant Date |
|------------|-----------------|---------|-------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| US10012687 | 14/473937       | US      | Methods, apparatus and system for tddb testing                                                                                      | 8/29/2014  | 7/3/2018   |
| US6748545  | 09/621931       | US      | System and method for selecting between a voltage specified by a processor and an alternate voltage to be supplied to the processor | 7/24/2000  | 6/8/2004   |
| US6795927  | 09/907083       | US      | Power state resynchronization                                                                                                       | 7/17/2001  | 9/21/2004  |
| US6804799  | 09/892328       | US      | Using type bits to track storage of ecc and predecode bits in a level two cache                                                     | 6/26/2001  | 10/12/2004 |
| US6823451  | 09/853447       | US      | integrated circuit for security and manageability                                                                                   | 5/11/2001  | 11/23/2004 |
| US6832317  | 09/853437       | US      | Personal computer security mechanism                                                                                                | 5/11/2001  | 12/14/2004 |
| US6832327  | 09/969304       | US      | Apparatus and method for providing an external clock from a circuit in sleep mode in a processor-based system                       | 10/2/2001  | 12/14/2004 |
| US6856946  | 10/324761       | US      | Passive impedance network for rotating a phase system                                                                               | 12/20/2002 | 2/15/2005  |
| US6862641  | 09/853234       | US      | Interruptible and re-enterable system management mode programming code                                                              | 5/11/2001  | 3/1/2005   |
| US6873184  | 10/653802       | US      | Circular buffer using grouping for find first function                                                                              | 9/3/2003   | 3/29/2005  |
| US6876252  | 10/609360       | US      | Non-abrupt switching of sleep transistor of power gate structure                                                                    | 6/28/2003  | 4/5/2005   |
| US6892314  | 09/824389       | US      | Method and system of automatic delay detection and receiver adjustment for synchronous bus interface                                | 4/2/2001   | 5/10/2005  |
| US6922738  | 10/259710       | US      | Ata/sata combined controller                                                                                                        | 9/27/2002  | 7/26/2005  |
| US6924682  | 10/683823       | US      | Latch circuit with metastability trap and method therefor                                                                           | 10/10/2003 | 8/2/2005   |
| US6993671  | 10/249291       | US      | High speed clock divider with synchronous phase start-up over physically distributed space                                          | 3/28/2003  | 1/31/2006  |
| US7003271  | 10/284642       | US      | Direct conversion receiver having a gain-setting dependent filter parameter                                                         | 10/31/2002 | 2/21/2006  |
| US7016994  | 10/285935       | US      | Retry mechanism for blocking interfaces                                                                                             | 11/1/2002  | 3/21/2006  |
| US7020485  | 10/324806       | US      | Electronic circuit with improved current stabilization                                                                              | 12/20/2002 | 3/28/2006  |

|           |           |    |                                                                                                                                                             |            |            |
|-----------|-----------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| US7030877 | 10/090507 | US | Computer graphics processing system, computer memory, and method of use with computer graphics processing system utilizing hierarchical image depth buffer  | 3/4/2002   | 4/18/2006  |
| US7035983 | 10/423993 | US | System and method for facilitating communication across an asynchronous clock boundary                                                                      | 4/25/2003  | 4/25/2006  |
| US7039145 | 09/760560 | US | Method and interface for glitch-free clock switching                                                                                                        | 1/16/2001  | 5/2/2006   |
| US7039755 | 09/584301 | US | Method and apparatus for powering down the cpu/memory controller complex while preserving the self refresh state of memory in the system                    | 5/31/2000  | 5/2/2006   |
| US7043626 | 10/676636 | US | Retaining flag value associated with dead result data in freed rename physical register with an indicator to select set-aside register instead for renaming | 10/1/2003  | 5/9/2006   |
| US7043679 | 10/180207 | US | Piggybacking of ecc corrections behind loads                                                                                                                | 6/27/2002  | 5/9/2006   |
| US7050762 | 10/970266 | US | Digitally controlled filter tuning for wlan communication devices                                                                                           | 10/21/2004 | 5/23/2006  |
| US7055006 | 10/426755 | US | System and method for blocking cache use during debugging                                                                                                   | 4/30/2003  | 5/30/2006  |
| US7058381 | 10/361088 | US | Equalizing circuit with notch compensation for a direct conversion receiver                                                                                 | 2/7/2003   | 6/6/2006   |
| US7058779 | 10/091766 | US | Computer system initialization via boot code stored in a non-volatile memory having an interface compatible with synchronous dynamic random access memory   | 3/5/2002   | 6/6/2006   |
| US7065654 | 09/852372 | US | Secure execution box                                                                                                                                        | 5/10/2001  | 6/20/2006  |
| US7085548 | 09/904751 | US | Harmonic mixer                                                                                                                                              | 7/13/2001  | 8/1/2006   |
| US7096290 | 10/259665 | US | On-chip high speed data interface                                                                                                                           | 9/27/2002  | 8/22/2006  |
| US7096323 | 10/256970 | US | Computer system with processor cache that stores remote cache presence information                                                                          | 9/27/2002  | 8/22/2006  |
| US7119578 | 10/720466 | US | Single supply level converter                                                                                                                               | 11/24/2003 | 10/10/2006 |
| US7130951 | 10/419091 | US | Method for selectively disabling interrupts on a secure execution mode-capable processor                                                                    | 4/18/2003  | 10/31/2006 |
| US7133969 | 10/676437 | US | System and method for handling exceptional instructions in a trace cache based processor                                                                    | 10/1/2003  | 11/7/2006  |
| US7135884 | 11/033757 | US | Voltage mode transceiver having programmable voltage swing and external reference-based calibration                                                         | 1/13/2005  | 11/14/2006 |

|           |           |    |                                                                                                                                                        |            |            |
|-----------|-----------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| US7154309 | 11/033754 | US | Dual-mode output driver configured for outputting a signal according to either a selected high voltage/low speed mode or a low voltage/high speed mode | 1/13/2005  | 12/26/2006 |
| US7155172 | 10/676600 | US | Facilitating cold reset and warm reset tasking in a computer system                                                                                    | 10/1/2003  | 1/16/2007  |
| US7177379 | 10/425974 | US | On-the-fly synchronization                                                                                                                             | 4/29/2003  | 2/13/2007  |
| US7184714 | 10/699667 | US | Frequency domain estimation of iq imbalance in a wireless ofdm direct conversion receiver using loopback connection                                    | 11/4/2003  | 2/27/2007  |
| US7184729 | 10/259708 | US | Digital automatic gain control for transceiver devices                                                                                                 | 9/27/2002  | 2/27/2007  |
| US7197768 | 09/901329 | US | Software modem for communicating data using encrypted data and unencrypted control codes                                                               | 7/9/2001   | 3/27/2007  |
| US7216362 | 09/853395 | US | Enhanced security and manageability using secure storage in a personal computer system                                                                 | 5/11/2001  | 5/8/2007   |
| US7225288 | 10/324782 | US | Extended host controller test mode support for use with full-speed usb devices                                                                         | 12/20/2002 | 5/29/2007  |
| US7225290 | 10/184434 | US | Ata and sata compliant controller                                                                                                                      | 6/27/2002  | 5/29/2007  |
| US7231474 | 11/140803 | US | Serial interface having a read temperature command                                                                                                     | 5/31/2005  | 6/12/2007  |
| US7256627 | 11/033755 | US | Alignment of local transmit clock to synchronous data transfer clock having programmable transfer rate                                                 | 1/13/2005  | 8/14/2007  |
| US7257678 | 10/956560 | US | Dynamic reconfiguration of cache memory                                                                                                                | 10/1/2004  | 8/14/2007  |
| US7263457 | 11/325054 | US | System and method for operating components of an integrated circuit at independent frequencies and/or voltages                                         | 1/3/2006   | 8/28/2007  |
| US7266673 | 10/429159 | US | Speculation pointers to identify data-speculative operations in microprocessor                                                                         | 5/2/2003   | 9/4/2007   |
| US7271634 | 11/286454 | US | Delay-locked loop having a plurality of lock modes                                                                                                     | 11/23/2005 | 9/18/2007  |
| US7296167 | 10/956537 | US | Combined system responses in a chip multiprocessor                                                                                                     | 10/1/2004  | 11/13/2007 |
| US7305663 | 10/323987 | US | System and method for state-based profiling of multiprocessor systems                                                                                  | 12/18/2002 | 12/4/2007  |
| US7305675 | 10/044707 | US | Processing tasks with failure recovery                                                                                                                 | 1/11/2002  | 12/4/2007  |

|           |           |    |                                                                                                                                                            |            |            |
|-----------|-----------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| US7315301 | 11/279981 | US | Computer graphics processing system, computer memory, and method of use with computer graphics processing system utilizing hierarchical image depth buffer | 4/17/2006  | 1/1/2008   |
| US7334102 | 10/434692 | US | Apparatus and method for balanced spinlock support in numa systems                                                                                         | 5/9/2003   | 2/19/2008  |
| US7356108 | 10/817811 | US | Ofdm receiver having adaptive channel estimator for correcting channel fading based on accumulated pseudo power values                                     | 4/6/2004   | 4/8/2008   |
| US7366885 | 10/858791 | US | Method for optimizing loop control of microcoded instructions                                                                                              | 6/2/2004   | 4/29/2008  |
| US7373484 | 10/755692 | US | Controlling writes to non-renamed register space in an out-of-order execution microprocessor                                                               | 1/12/2004  | 5/13/2008  |
| US7389402 | 11/146863 | US | Microprocessor including a configurable translation lookaside buffer                                                                                       | 6/7/2005   | 6/17/2008  |
| US7403057 | 11/556882 | US | Cmi delay cell with linear rail-to-rail tuning range and constant output swing                                                                             | 11/6/2006  | 7/22/2008  |
| US7418584 | 11/066752 | US | Executing system management mode code as virtual machine guest                                                                                             | 2/25/2005  | 8/26/2008  |
| US7426621 | 11/297856 | US | Memory access request arbitration                                                                                                                          | 12/9/2005  | 9/16/2008  |
| US7464255 | 11/192153 | US | Using a shuffle unit to implement shift operations in a processor                                                                                          | 7/28/2005  | 12/9/2008  |
| US7472320 | 10/708316 | US | Autonomous self-monitoring and corrective operation of an integrated circuit                                                                               | 2/24/2004  | 12/30/2008 |
| US7492747 | 11/316499 | US | Secure patch installation for wwan systems                                                                                                                 | 12/21/2005 | 2/17/2009  |
| US7493498 | 12272946  | US | Input/output permission bitmaps for compartmentalized security                                                                                             | 3/27/2002  | 2/17/2009  |
| US7502474 | 10/839872 | US | Network interface with security association data prefetch for high speed offloaded security processing                                                     | 5/6/2004   | 3/10/2009  |
| US7506222 | 11/368792 | US | System for phase tracking and equalization across a byte group for asymmetric control of high-speed bidirectional signaling                                | 3/6/2006   | 3/17/2009  |
| US7542880 | 11/278840 | US | Time weighted moving average filter                                                                                                                        | 4/6/2006   | 6/2/2009   |
| US7543131 | 11/503390 | US | Controlling an i/o mmu                                                                                                                                     | 8/11/2006  | 6/2/2009   |
| US7558687 | 10/932999 | US | Method and apparatus for dynamic adjustment of a sensor sampling rate                                                                                      | 9/2/2004   | 7/7/2009   |
| US7561625 | 11/348136 | US | Method and apparatus for crosstalk reduction                                                                                                               | 2/5/2006   | 7/14/2009  |
| US7596742 | 11/379864 | US | Error detection in a communication link                                                                                                                    | 4/24/2006  | 9/29/2009  |
| US7602217 | 11/839611 | US | Level shifter circuit with pre-charge/pre-discharge                                                                                                        | 8/16/2007  | 10/13/2009 |
| US7631160 | 09/825905 | US | Method and apparatus for securing portions of memory                                                                                                       | 4/4/2001   | 12/8/2009  |
| US7636780 | 11/192259 | US | Verified computing environment for personal internet communicator                                                                                          | 7/28/2005  | 12/22/2009 |
| US7650550 | 11/679242 | US | Over temperature detection apparatus and method thereof                                                                                                    | 2/27/2007  | 1/19/2010  |

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|-----------|-----------|----|--------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| US7653803 | 11/623500 | US | Address translation for input/output (i/o) devices and interrupt remapping for i/o devices in an i/o memory management unit (iommu)        | 1/16/2007  | 1/26/2010  |
| US7657690 | 11/151318 | US | Control of pci memory read behavior using memory read alias and memory command reissue bits                                                | 6/14/2005  | 2/2/2010   |
| US7685410 | 11/674566 | US | Redirect recovery cache that receives branch misprediction redirects and caches instructions to be dispatched in response to the redirects | 2/13/2007  | 3/23/2010  |
| US7692561 | 12/175214 | US | Method and apparatus for data decompression in the presence of memory hierarchies                                                          | 7/17/2008  | 4/6/2010   |
| US7694031 | 11/590286 | US | Memory controller including a dual-mode memory interconnect                                                                                | 10/31/2006 | 4/6/2010   |
| US7694075 | 11/076323 | US | System for enabling and disabling cache and a method thereof                                                                               | 3/9/2005   | 4/6/2010   |
| US7694110 | 10/614970 | US | System and method of implementing microcode operations as subroutines                                                                      | 7/8/2003   | 4/6/2010   |
| US7702888 | 11/711925 | US | Branch predictor directed prefetch                                                                                                         | 2/28/2007  | 4/20/2010  |
| US7725905 | 10/843255 | US | Media accelerator interface api                                                                                                            | 5/10/2004  | 5/25/2010  |
| US7729465 | 11/368785 | US | Asymmetric control of high-speed bidirectional signaling                                                                                   | 3/6/2006   | 6/1/2010   |
| US7730346 | 11/742029 | US | Parallel instruction processing and operand integrity verification                                                                         | 4/30/2007  | 6/1/2010   |
| US7747881 | 11/503700 | US | System and method for limiting processor performance                                                                                       | 8/14/2006  | 6/29/2010  |
| US7750711 | 11/742860 | US | Phase select circuit with reduced hysteresis effect                                                                                        | 5/1/2007   | 7/6/2010   |
| US7765425 | 11/385329 | US | Incrementally adjustable skew and duty cycle correction for clock signals within a clock distribution network                              | 3/21/2006  | 7/27/2010  |
| US7772889 | 12/100052 | US | Programmable sample clock for empirical setup time selection                                                                               | 4/9/2008   | 8/10/2010  |
| US7783954 | 11/518843 | US | System for controlling high-speed bidirectional communication                                                                              | 9/11/2006  | 8/24/2010  |
| US7792385 | 11/042218 | US | Scratch pad for storing intermediate loop filter data                                                                                      | 1/25/2005  | 9/7/2010   |
| US7793080 | 11/967924 | US | Processing pipeline having parallel dispatch and method thereof                                                                            | 12/31/2007 | 9/7/2010   |
| US7809923 | 12/635385 | US | Direct memory access (dma) address translation in an input/output memory management unit (iommu)                                           | 12/10/2009 | 10/5/2010  |
| US7813815 | 11/557745 | US | Digital measuring system and method for integrated circuit chip operating parameters                                                       | 11/8/2006  | 10/12/2010 |
| US7818542 | 11/775451 | US | Method and apparatus for length decoding variable length instructions                                                                      | 7/10/2007  | 10/19/2010 |
| US7818543 | 11/775456 | US | Method and apparatus for length decoding and identifying boundaries of variable length instructions                                        | 7/10/2007  | 10/19/2010 |

|           |           |    |                                                                                                        |            |            |
|-----------|-----------|----|--------------------------------------------------------------------------------------------------------|------------|------------|
| US7827355 | 10/887069 | US | Data processor having a cache with efficient storage of predecode information, cache, and method       | 7/8/2004   | 11/2/2010  |
| US7831800 | 11/750266 | US | Technique for prefetching data based on a stride pattern                                               | 5/17/2007  | 11/9/2010  |
| US7831816 | 12/130990 | US | Non-destructive sideband reading of processor state information                                        | 5/30/2008  | 11/9/2010  |
| US7836359 | 11/891165 | US | Time stamping transactions to validate atomic operations in multiprocessor systems                     | 8/9/2007   | 11/16/2010 |
| US7840873 | 11/610219 | US | Partial crc insertion in data packets for early forwarding                                             | 12/13/2006 | 11/23/2010 |
| US7861140 | 11/590290 | US | Memory system including asymmetric high-speed differential memory interconnect                         | 10/31/2006 | 12/28/2010 |
| US7873770 | 11/559049 | US | Filtering and remapping interrupts                                                                     | 11/13/2006 | 1/18/2011  |
| US7877559 | 11/944864 | US | Mechanism to accelerate removal of store operations from a queue                                       | 11/26/2007 | 1/25/2011  |
| US7913103 | 11/841179 | US | Method and apparatus for clock cycle stealing                                                          | 8/31/2007  | 3/22/2011  |
| US8001363 | 11/098153 | US | System for speculative branch prediction optimization and method thereof                               | 4/4/2005   | 8/16/2011  |
| US8028185 | 12/045764 | US | Protocol for transitioning in and out of zero-power state                                              | 3/11/2008  | 9/27/2011  |
| US8060882 | 11/924146 | US | Processing tasks with failure recovery                                                                 | 10/25/2007 | 11/15/2011 |
| US8069336 | 10/726902 | US | Transitioning from instruction cache to trace cache on label boundaries                                | 12/3/2003  | 11/29/2011 |
| US8099541 | 12/272955 | US | Minivisor entry point in virtual machine monitor address space                                         | 11/18/2008 | 1/17/2012  |
| US8099557 | 12/037595 | US | Push for sharing instruction                                                                           | 2/26/2008  | 1/17/2012  |
| US8103910 | 12/696780 | US | Local rollback for fault-tolerance in parallel computing systems                                       | 1/29/2010  | 1/24/2012  |
| US8103941 | 12/059543 | US | Low overhead soft error tolerant flip flop                                                             | 3/31/2008  | 1/24/2012  |
| US8112647 | 12/254650 | US | Protocol for power state determination and demotion                                                    | 10/20/2008 | 2/7/2012   |
| US8112648 | 12/333744 | US | Enhanced control of cpu parking and thread rescheduling for maximizing the benefits of low-power state | 12/12/2008 | 2/7/2012   |
| US8127098 | 11/066873 | US | Virtualization of real mode execution                                                                  | 2/25/2005  | 2/28/2012  |
| US8135962 | 10/108253 | US | System and method providing region-granular, hardware-controlled memory encryption                     | 3/27/2002  | 3/13/2012  |
| US8140034 | 12/624677 | US | Frequency locked feedback loop for wireless communications                                             | 11/24/2009 | 3/20/2012  |
| US8156362 | 12/198974 | US | Hardware monitoring and decision making for transitioning in and out of low-power state                | 8/27/2008  | 4/10/2012  |
| US8176303 | 12/203456 | US | Multiprocessor communication device and methods thereof                                                | 9/3/2008   | 5/8/2012   |

|           |           |    |                                                                                                                              |            |            |
|-----------|-----------|----|------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| US8184677 | 09/256786 | US | Arrangement in a network repeater for monitoring link integrity and automatically down shifting link speed                   | 2/24/1999  | 5/22/2012  |
| US8195887 | 12/356624 | US | Processor power management and method                                                                                        | 1/21/2009  | 6/5/2012   |
| US8195962 | 12/268531 | US | Method and apparatus for regulating power consumption                                                                        | 11/11/2008 | 6/5/2012   |
| US8219994 | 12/256703 | US | Work balancing scheduler for processor cores and methods thereof                                                             | 10/23/2008 | 7/10/2012  |
| US8250354 | 12/208071 | US | Method and apparatus for making a processor sideband interface adhere to secure mode restrictions                            | 9/10/2008  | 8/21/2012  |
| US8276039 | 12/394701 | US | Error detection device and methods thereof                                                                                   | 2/27/2009  | 9/25/2012  |
| US8280040 | 12/365543 | US | Processor instructions for improved aes encryption and decryption                                                            | 2/4/2009   | 10/2/2012  |
| US8301847 | 13/032361 | US | Managing concurrent accesses to a cache                                                                                      | 2/22/2011  | 10/30/2012 |
| US8311222 | 12/198239 | US | Hardware based multi-dimensional encryption                                                                                  | 8/26/2008  | 11/13/2012 |
| US8321865 | 12/541435 | US | Processing of streaming data with a keyed delay                                                                              | 8/14/2009  | 11/27/2012 |
| US8352670 | 12/272951 | US | Execute-only memory and mechanism enabling execution from execute-only memory for minivisor                                  | 11/18/2009 | 1/8/2013   |
| US8359494 | 10/323272 | US | Parallel fault detection                                                                                                     | 12/18/2002 | 1/22/2013  |
| US8368710 | 11/321706 | US | Data block transfer to cache                                                                                                 | 12/29/2005 | 2/5/2013   |
| US8410816 | 13/370144 | US | Low-swing signaling scheme for data communication                                                                            | 2/9/2012   | 4/2/2013   |
| US8432409 | 11/317593 | US | Strided block transfer instruction                                                                                           | 12/23/2005 | 4/30/2013  |
| US8471614 | 13/160072 | US | Digital phase locked loop system and method                                                                                  | 6/14/2011  | 6/25/2013  |
| US8489821 | 13/570847 | US | Managing concurrent accesses to a cache                                                                                      | 8/9/2012   | 7/16/2013  |
| US8527740 | 12/697164 | US | Mechanism of supporting sub-communicator collectives with o(64) counters as opposed to one counter for each sub-communicator | 1/29/2010  | 9/3/2013   |
| US8578134 | 11/098273 | US | System and method for aligning change-of-flow instructions in an instruction buffer                                          | 4/4/2005   | 11/5/2013  |
| US8627291 | 13/437506 | US | Identification of localizable function calls                                                                                 | 4/2/2012   | 1/7/2014   |
| US8650523 | 13/471736 | US | Sub-circuit models with corner instances for vlsi designs                                                                    | 5/15/2012  | 2/11/2014  |
| US8677404 | 11/859423 | US | System and method for controlling video inputs to a computer                                                                 | 9/21/2007  | 3/18/2014  |
| US8716869 | 13/359107 | US | Cell array and density features with decoupling capacitors                                                                   | 1/26/2012  | 5/6/2014   |
| US8756379 | 13/925356 | US | Managing concurrent accesses to a cache                                                                                      | 6/24/2013  | 6/17/2014  |
| US8850127 | 14/227398 | US | Managing concurrent accesses to a cache                                                                                      | 3/27/2014  | 9/30/2014  |

|           |           |    |                                                                                                                  |            |            |
|-----------|-----------|----|------------------------------------------------------------------------------------------------------------------|------------|------------|
| US9086974 | 14/037958 | US | Centralized management of high-contention cache lines in multi-processor computing environments                  | 9/26/2013  | 7/21/2015  |
| US9088297 | 13/946719 | US | High throughput decoding of variable length data symbols                                                         | 7/19/2013  | 7/21/2015  |
| US9100042 | 13/922964 | US | High throughput decoding of variable length data symbols                                                         | 6/20/2013  | 8/4/2015   |
| US9197584 | 13/959432 | US | Increasing efficiency of data payloads to data arrays accessed through registers in a distributed virtual bridge | 8/5/2013   | 11/24/2015 |
| US9219696 | 14/251386 | US | Increased efficiency of data payloads to data arrays accessed through registers in a distributed virtual bridge  | 4/11/2014  | 12/22/2015 |
| US9329890 | 14/037925 | US | Managing high-coherence-miss cache lines in multi-processor computing environments                               | 9/26/2013  | 5/3/2016   |
| US9384064 | 14/475776 | US | Multiple core processing with high throughput atomic memory operations                                           | 9/3/2014   | 7/5/2016   |
| US9461850 | 14/257236 | US | Parallel data processing                                                                                         | 4/21/2014  | 10/4/2016  |
| US9501128 | 14/067314 | US | Cooperative reduced power mode suspension for high input/output (HIO) workloads                                  | 10/30/2013 | 11/22/2016 |
| US9507599 | 13/947734 | US | Instruction set architecture with extensible register addressing                                                 | 7/22/2013  | 11/29/2016 |
| US9524166 | 13/948800 | US | Tracking long giv in high performance out-of-order superscalar processors                                        | 7/23/2013  | 12/20/2016 |
| US9665436 | 14/488548 | US | Creation and management of logical volume snapshots under hierarchical storage system                            | 9/17/2014  | 5/30/2017  |
| US9678885 | 13/948487 | US | Regular expression memory region with integrated regular expression engine                                       | 7/23/2013  | 6/13/2017  |

END OF EXHIBIT A