IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

Xiaohua Huang, an individual	)	
Plaintiff,	)	Case No.: 2:16-cv-947 JRG/RSP
v.	)	
HUAWEI TECHNOLOGIES CO., LTD.; HUAWEI DEVICE CO., LTD.; HUAWEI TECHNOLOGIES USA, INC.; HUAWEI DEVICE USA, INC.; AND HUAWEI ENTERPRISE USA, INC.,	)	DEMAND FOR JURY TRIAL
Defendant.	)	

PLAINTIFF XIAOHUA HUANG'S SECOND AMENDED COMPLAINT AGAINST DEFENDANT HUAWEI TECHNOLOGIES LTD. FOR PATENT INFRINGEMENT

Plaintiff Xiaohua Huang (hereinafter "Huang" or "Plaintiff") alleges as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement arising out of U.S. Patent No. RE 45,259 issued on November 25, 2014 (hereinafter the "'259 Reissue"), 6,744,653 (hereinafter the "'653 Patent") issued on June 1, 2004, and 6,999,331 issued on February 14, 2006 (hereinafter the "'331 Patent") to Xiaohua Huang. This action is brought to remedy the infringement of the '259 Reissue, '653Patent and '331Patent by Defendant Huawei Technologies Co. Ltd. ; Huawei Device Co., Ltd.; Huawei Technologies USA, Inc.; Huawei Device USA, Inc.; and Huawei Enterprise USA, Inc. (collectively, "Huawei" or "Defendant").

THE PARTIES

2. Xiaohua Huang is an individual, his current residential address is at 6832 Endmoor drive, San Jose CA95119, USA. Huang has developed the state of the art high speed and low power U.S. patented TCAM designs to build IC chips used inside of Internet IP Routers ("Routers"), Ethernet Switches("Switches") and Data Center Switches etc since the year of 2000.

3. On information and belief, Huawei Technologies Co., Ltd. is a Chinese corporation with its principal place of business at Bantian, Longgang District, Shenzhen, People's Republic of China. On information and belief, Huawei Device Co., Ltd. is a Chinese corporation with its principal place of business at Bantian, Longgang District, Shenzhen, People's Republic of China. On information and belief, Huawei Technologies USA, Inc. is a Texas corporation with a principal place of business at 5700 Tennyson Parkway, Suite 600, Plano, Texas 75024. Huawei Technologies USA, Inc. can be served through its registered agent for service of process, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201. On information and belief, Huawei Device USA, Inc. is a Texas corporation with a principal place of business at 5700 Tennyson Parkway, Suite 600, Plano, Texas 75024. Huawei Technologies USA, Inc. can be served through its registered agent for service of process, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201. On information and belief, Huawei Enterprise USA, Inc. is a California corporation with a principal place of business at 3965 Freedom Circle, 11th Floor, Santa Clara, California 95054. Huawei Enterprise USA, Inc. can be served through its registered agent for service of process, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201. On information and belief, each Defendant is a wholly-owned subsidiary of Huawei Investment & Holding Co., Ltd. Huawei develop and market the products of Routers, Switches and Data Center Switches in the state of Texas and the other states of the United States.

JURISDICTION AND VENUE

4. This action arises under the patent laws of the United States, 35 U.S.C. § 101, *et seq.* This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a). Venue is proper in this District pursuant to 28 U.S.C. §§1391(b) - (c) and 1400(b) in that Defendant has offered, and continues to offer, to sell products, including products entitled

"Switches", "Routers" and Data Center Switches which infringes the '259 Reissue and the '653 and '331 Patents within Texas.

BACKGROUND FACTUAL ALLEGATION

5. A true and correct copy of each of the '259 Reissue, the '653 and '331 Patents are attached hereto as Exhibits A, B and C respectively. The '259 Reissue, the '653Patent and '331 Patent are valid and owned by Plaintiff as the inventor.

6. In Nov. 2000 "Huang" found CMOS Micro Device Inc ("CMOS") to develop Ternary Content Addressable Memory (TCAM). "Huang" is the owner of "CMOS", "CMOS" is a California corporation and having its office in 900 East Hamilton Ave, Room 100, Campbell, California , USA. TCAM are used to perform the search function in internet networking router and switches.

7. In Oct. 2001 "Huang" filed the provisional patent application titled "High-speed and low power content addressable memory (CAM) sensing circuits", some content of which was granted as US patent 6744653 "CAM cells and differential sense circuit for content addressable memory(CAM)" in June1, 2004 and US patent 6999331"CAM cells and differential sense circuit for content addressable memory(CAM)" in Feb.14,2006. In March, 2004, Huang filed provisional patent application titled "Hit Ahead hierarchical scalable priority encoding logic and circuit" which was granted as US patent 7652903 "Hit Ahead hierarchical scalable priority encoding logic and circuit" in January 26, 2010 and RE45259 in Nov.25,2014.

8. From Nov. 2000 to April, 2002, Huang finished the design of ternary content addressable memory(TCAM) with 0.18um TSMC technology which are covered by the '259 Reissue, the '653 and '331 Patents. The TCAM designed by Huang is three times faster in speed and consume much less power than the same products in Market at that time. Then Huang shared his patent application with two Cisco executives, they are GM and VP of Router and Gigbit switches division respectively. They both consider that Huang's patents of TCAM are the best solution among all the vendors and asked Huang to review their next generation TCAM specification and do a feasible design to evaluate the possible product performance. The design data provided by Huang is still better than the best products in market today. '653Patent, '331Patent and '259RE are the basic fundamentals to design high speed and low power TCAM

used in internet Router and Switches as well as Data Center Switches for Big Data and Cloud Computing up to today. The TCAM designed by Huang provide the example design using those three patents ('653, '331Patent and '259RE).

9. The patented TCAM IP developed by Huang has been highly recognized by the industry. In 2003 Huang was an invited speaker to present his TCAM design at networking symposium at Boston organized by the Industry Authority Linley Group. In 2015 Huang was also a presenter of "MEMCON 2015" in Santa Clara convention center to present his patented TCAM design.

10. In 2004 Huang contacted both Integrated Device Technology Inc(IDT) and Netlogic Microsystems Inc(Netlogic) and try to sell the patents applications and TCAM design data to them. Both IDT and Netlogic reviewed the patent applications. IDT also invited Huang to present the TCAM design details to their TCAM design team. Then both companies decided not to buy.

11. In 2014 through reverse engineering of several Broadcom(IDT)'s TCAM chips(Internal coded Knowledge Based Processor(KBP), Including IDT75K72234. Huang found that the claim1 of '259Reissue and several other claims read several Broadcom（IDT）'s TCAM chips （Exhibition F）. In 2015 Huang reversed the Broadcom（Netlogic）'s TCAM chips, including NL9512, the claim1 of '259Reissue also read the design. In 2009 Netlogic acquired IDT's TCAM business, In 2011 Broadcom acquired Netlogic. The RE45259 patent describe the "Hit ahead hierarchical scalable priority encoding logic and circuit" of content addressable memory. The ternary content addressable memory component are used as table look up function and used in internet router and switches as well as data center switches to perform table look up to realize access control list(ACL), Quality of Service(QoS), VLAN, LPM and other parallel searching, filtering and access control functions, those functions are listed in the product data sheets or specifications of Huawei's products(Exhibit I, Exhibit J, Exhibit K). Hierarchical priority encoding is the fundamental and the only method to achieve high speed look up for large amount content table look up. The claim 1 of '259Reissue is that " the content addressable memory are divided into many blocks which is arranged in column and row, each block has its own priority encoding logic and perform priority encoding parallel and generate the least significant portion of address, in the same time, the blocks in each column will perform priority encoding to generate the address of corresponding to the block, and the priority encoding are performed

among the columns to generate the more significant portion of the address". In this way the larger content table can be looked up very quickly and the searched address are generated hierarchically. The data sheet of IDT TCAM chip and Netlogic TCAM chip describes the same method. After reverse several TCAM chips of IDT and Netlogic, the chip are designed same as the claims in '259Reissue. As seen in "Reverse- engineering drawing description" （Exhibition F） the picture 0 is the photo of the TCAM chip, from the picture that the chips are divided to many blocks which are arranged in column and row. Picture 1 is part of priority encoding logic of poly view and Fig.5 is the priority encoding and address generation logic within each block extracted from the picture 1,2 ,3,4and 5., each block has same priority encoding and address generation logic. Figure 1 is the extracted column priority encoding logic from the photo picture of the chip, which is same as the Figure 2a of patent '259Reissue.

12. In 2003 Huang found that Silicon design solution Inc (SDS) was selling TCAM IP, the claimed performance of SDS's TCAM IP(called eFlexCAM) and the method to achieve it is same as the TCAM designed by Huang, In 2005 Huang have lawyer Paul Rice send a letter with '653Patent to SDS. In 2010 SDS was acquired by eSilicon Corporation. In 2011 Huang found a product brochure of SDS's eFlexCAM on Internet （Exhibit E） and find that the content of SDS's eFlexCAM: (A low power version of eFlexCAM employs a differential sense amplifier to reduce voltage. swing of the Hitline and further reduce power required for search operations) are read by the claims of '653Patent and '331Patent. The '653Patent and '331Patent describe the differential match(hit) line sensing technique of comparison in content addressable memory. the claim 1,5,8,12,15 and 17 of '653Patent describe the different ways to achieve the match(Hit) line differential sensing technique to support the application of differential sense amplifier to match(Hit) line. The claim 1 and 9 of '331Patent describe the implementation and method of using differential sense amplifier to achieve low voltage swing of match(hit) line to reduce the power, which is same as described in the eFlexCAM product brochure of eSilicon Corporation. Later eSilicon Corporation changed the "differential sense amplifier" to "sense amplifier" in its company Webpage (see Exhibit E(2)) As a common term in memory design " sense amplifier" means " differential sense amplifier". Up to now our patents are the only

published materials to describe how to design the differential sensing of TCAMs match line (Hit line) which are applicable to real products.

13. In 2011 eSilicon announced a press release that Hisilicon(a fully owned subsidiary of Huawei) licensed TCAM from eSilicon(Exhibition D), on June,2011 Huang met a vice president of Hisilicon division at Huawei in charge of IC design including TCAM design department, and learned that Hisilicon(Huawei) licensed TCAM from eSilicon Corporation and just taped out a product with eSilicon's TCAM. Huang informed the VP of Hisilicon(Huawei) that eSilicon's TCAM might infringe Huang's patents, and emailed this VP of Hisilicon(Huawei) the '331Patent , the '653 patent and 7652903('259Reissue) patents. The VP forwarded the patents-in-suit to the TCAM design manager of Huawei internal design team. In September, 2013, Huang met this VP in SMIC tech symposium, the VP said that Huawei team reviewed the patents-in-suit and comment that the contents of the patent-in-suit are very good, but refuse to either license the patents or the TCAM design. So Huawei have the information of the patent-in-suit('653Patent, '331Patent and'259Reissue) and also have the data sheet of eFlexCAM and the data sheets of TCAM chips of Broadcom(IDT and Netlogic), then Huawei knows that the TCAM chip and the TCAM IP used in their "router" and "switches" products have high risk and "objectively high likelihood" to infringe the patent-in-suit, and this risk was known and obvious to Huawei, so Huawei's infringement of patent-in-suit is willful. In the case 2:15-cv-1413 Huawei's counsel and personals made declaration that Huawei has used TCAM IP of eSilicon in the products sold outside the USA, but not used the TCAM IP of eSilicon in the products of the same model No. sold inside the USA.(see Exhibit OP1). Soon after Plaintiff found that the products sold in China and the Products sold in USA by Huawei are same (see Exhibit OP). So Huawei's Counsel together with Huawei's Personals nade false Declaration and the Huawei's products sold in USA have contained the TCAM IP of eSilicon Corporation.

14. Despite the willful infringement Huawei sell the "switches" to their customers and through Huawei's product data sheet to instruct their customer to use the "ACL" and "QoS" function of "switches" and "router" which use TCAM and induce their customer to directly infringe the patent-in-suit. Huawei conduct indirect infringement of patent-in-suit through inducement.

15. The most function, such as AcL, QoS, VLAN and LPM, of "router" and "Switches" use TCAM lookup. Through using Huawei's "switches" the Huawei's costumers conduct the act

of direct infringement. Huawei also knew that the especially made TCAM components used in their "switches" to achieve function of AcL, QoS, VLAN and LPM were both patented and infringing, and that the TCAM inside the "switches" and the "Switches" have "no substantial non-infringing uses." . Huawei conduct contributory infringement of patent-in-suit.

HUAWEI'S INFRINGING PRODUCTS

16. The following facts relating to Huawei are provided upon information and belief. Huawei are selling the following products in the United States of America, Huawei provide solutions for IP/Carrier Ethernet, Networking & Security,CloudComputing & Data Centers. the products of those solutions include but not limited to:

CloudEngine 5800 Series Data Center Switches;

S2700 Series Enterprise Switches;

AR Series Agile Gateways;

AR3200 Series Enterprise Routers;

AR2200 Series Enterprise Routers;

AR1200 Series Enterprise Routers;

AR150 Series Enterprise Routers;

NetEngine5000E Cluster Routers;

NetEngine 20E-S Series Universal Service Routers;

AC6005 Access Controller;

SmartAX MA5620;

USG6600;

CloudEngine 12800 SeriesData Center Switches(CE12816,CE12812, CE12808,CE12804 and CE12804S);

CloudEngine 8800 SeriesData Center Switches;

CloudEngine 7800 SeriesData Center Switches;

CloudEngine 6800 SeriesData Center Switches(CE6851-48S6Q-HI, CE6850-48T6Q-HI, CE6850U-24S2Q-HI, CE6810-48S4Q-LI); CloudEngine 5800 SeriesData Center Switches(CE5855-48T4S2Q-EI,CE5855-24T4S2Q-EI, CE5810-48T4S-EI,CE5850-48T4S2Q-HI, CE5810-24T4S-EI);

S9700 Series Agile Switches(S9712,S9706,S9703);

S7700 Series Agile Switches(S7712,S7706,S7703);

S6720 Series Agile Switches(S6720-30C-EI-24S-AC, S6720-54C-EI-48S-AC, S6720-26Q-EI-24S-AC,S6720S-26Q-EI-24S-DC,S6720-30C-EI-24S-DC);

S6700 Series Agile Switches; S5720-SI Series Agile Fixed Switches(S5720S-28P-SI-AC,S5720S-28X-SI-AC,S5720-28P-SI-AC,S5720-52P-SI-AC,S5720S-52X-SI-AC);

S5720-HI Series Agile Fixed Switches; S5720-EI Series Agile Fixed Switches;

S5700-SI Series Standard Gigabit Switches;

S5700-SI Series Simplified Gigabit Switches;

S5700-HI Series Enhanced Gigabit Switches;

S5700-HI Series Advanced Gigabit Switches;

S3700 Series Enterprise Switches;

S2700 Series Enterprise Switches;

S9300 Series Terabit Routing Switches(S9303,S9306,S9312);

S9300E Series Terabit Routing Switches;

S6300 Series Switches(S6324-EI,S6348-EI);

S5300-LI Series Gigabit Enterprise Switches;

S5320-EI Series Enhanced Gigabit Switches(S5320-32P-EI-AC, S5320-32P-EI-DC, S5320-32X-EI-AC, etc, total 20 sub-model);

S5300-LI Series Gigabit Enterprise Switches(S5300-28P-LI-AC,S5300-28P-LI-DC,S5300-52P-LI-AC,S5300-52P-LI-DC,S5306TP-LI-AC,etc 14sub-model);

Quidway S3300 series Switches(including: S3326C-HI, S3328TP-EI-MC,S3328TP-SI/EI,3328TP-PWR-EI,S3328TP-EI-24S,S3352P-SI/EI,S3352P-PWR-EI,S3352P-EI—24S, 3352P-EI-48S);

Quidway S2300 series switches;

AR Series Agile Gateways (including: AR160-M Series Agile Gateways, AR500 Series Agile Gateways, AR510 Series Agile Gateways);

ME60 Multi-Service Control Gateways;

AR3200 Series Enterprise Routers(AR3260);

AR2200 Series Enterprise Routers(AR2201-48FE,AR2202-

48FE,AR2220,AR2220E);

AR1200 Series Enterprise Routers;

NetEngine Series Routers(including: NetEngine5000E Cluster Routers,

NE5000E,NetEngine 40E Series Universal Service Routers;

NetEngine 20E-S Series Universal Service Routers;

NE05E/08E Series Mid-range Service Routers;

AtomEngine Service Products;

ATN series(including: ATN905,ATN910B,ATN910I);

WLAN Access Controller Products(AC6005,AC6605,ACU2);

Broadband access products(DBS3900 , eCNS600,etc);

Vcm5020,vcm5010, vcn3010,vcn3020;

SmartAX MA5600T;

SmartAX MA5800 Series OLTs ;

UA5000 Multi-Service Access Platform ;

SmartAX MA5620 Series Fiberoptic MDUs ;

USG6300, USG6600,USG9500 AND NIP6000.

17. The above listed products are part of the Huawei's " routers", "switches" and "data center switches", some of them are expensive, the price is more than one hundred thousand US dollars. All those products use either/both embedded TCAM or /and TCAM chips to perform the ACL, QoS, VLAN, LPM and other parallel searching , filtering and access control functions which are listed in the product data sheets or specifications(Exhibit J). The TCAM chips inside those "router" and "Switches" are mainly from Broadcom Corporation (before 2011 Huawei purchased TCAM chip from Netlogic and IDT, Broadcom acquired them in 2011) (See Exhibit L Huawei NE5000E use Netlogic'TCAM in the diagram of page 16). Broadcom corporation is one of the two TCAM chips provider, the other provider from Japan only has one TCAM chip. Broadcom Corporation has 90% of TCAM Market share. The TCAM series products are coded Knowledge Based Processor (KBP), those products infringe patent RE45259, and infringed the claim 1 of Patent RE45259 , claim 7 of Patent RE 45259, or claim 13 of RE45259 (See exhibition F). Inside those "Switches" and "Routers" the embedded TCAM used in the ASIC chips and Network Processors designed by Highsilicon which is an IC chip design devision or fully owned subsidary of Huawei or/and other design house is licensed from eSilicon Corporation(Exhibition D). Based on the TCAM brocher of Silicon Design Soltion Inc(SDS)（Exhibition E）(SDS is part of eSlilicon, acquired by eSilicon), The TCAM which Huawei licensed from eSilicon infringed the claim 1,8,12 and 15 of patent 6744653 and the claim 1 of patent 6999331 at least.

COUNT I : INFRINGEMENT OF U.S. PATENT NO. RE45259

18. Plaintiff refers to and incorporates herein the allegations of Paragraphs 1-17 above.

19. On November 25, 2014, U.S. Patent No. RE45259 (the "'259Reissue") was duly and legally issued for a "Hit Ahead hierarchical scalable priority encoding logic and circuit." A true and correct copy of the '259Reissue patent is attached hereto as Exhibit A. Xiaohua Huang as inventor is the owner of all rights, title, and interest in and to the ' 259Reissue patent. U.S. Patent No. RE45259 is the reissue of U.S. Patent No. 7652903 which was duly and legally issued on Jan. 26, 2010. Xiaohua Huang as inventor is the owner of all rights, title, and interest in and to the U.S. Patent No. 7652903.

20. On information and belief, Huawei Defendants have infringed and continue to infringe directly, indirectly, literally one or more of the claims of the '259Reissue patent. Huawei Defendants manufacture, use, sell, import, and/or offer to sell infringing products and/or services, including but not limited to:

CloudEngine 5800 Series Data Center Switches;

S2700 Series Enterprise Switches;

AR Series Agile Gateways;

AR3200 Series Enterprise Routers;

AR2200 Series Enterprise Routers;

AR1200 Series Enterprise Routers;

AR150 Series Enterprise Routers;

NetEngine5000E Cluster Routers;

NetEngine 20E-S Series Universal Service Routers;

AC6005 Access Controller;

SmartAX MA5620;

USG6600;

CloudEngine 12800 SeriesData Center Switches(CE12816,CE12812, CE12808,CE12804 and CE12804S);

CloudEngine 8800 SeriesData Center Switches;

CloudEngine 7800 SeriesData Center Switches;

CloudEngine 6800 SeriesData Center Switches(CE6851-48S6Q-HI, CE6850-48T6Q-HI, CE6850U-24S2Q-HI, CE6810-48S4Q-LI); CloudEngine 5800 SeriesData Center Switches(CE5855-48T4S2Q-EI,CE5855-24T4S2Q-EI, CE5810-48T4S-EI,CE5850-48T4S2Q-HI, CE5810-24T4S-EI);

S9700 Series Agile Switches(S9712,S9706,S9703);

S7700 Series Agile Switches(S7712,S7706,S7703);

S6720 Series Agile Switches(S6720-30C-EI-24S-AC, S6720-54C-EI-48S-AC, S6720-26Q-EI-24S-AC,S6720S-26Q-EI-24S-DC,S6720-30C-EI-24S-DC);

S6700 Series Agile Switches; S5720-SI Series Agile Fixed Switches(S5720S-28P-SI-AC,S5720S-28X-SI-AC,S5720-28P-SI-AC,S5720-52P-SI-AC,S5720S-52X-SI-AC);

S5720-HI Series Agile Fixed Switches; S5720-EI Series Agile Fixed Switches;

S5700-SI Series Standard Gigabit Switches;

S5700-SI Series Simplified Gigabit Switches;

S5700-HI Series Enhanced Gigabit Switches;

S5700-HI Series Advanced Gigabit Switches;

S3700 Series Enterprise Switches;

S2700 Series Enterprise Switches;

S9300 Series Terabit Routing Switches(S9303,S9306,S9312);

S9300E Series Terabit Routing Switches;

S6300 Series Switches(S6324-EI,S6348-EI);

S5300-LI Series Gigabit Enterprise Switches;

S5320-EI Series Enhanced Gigabit Switches(S5320-32P-EI-AC, S5320-32P-EI-DC, S5320-32X-EI-AC, etc, total 20 sub-model);

S5300-LI Series Gigabit Enterprise Switches(S5300-28P-LI-AC,S5300-28P-LI-DC,S5300-52P-LI-AC,S5300-52P-LI-DC,S5306TP-LI-AC,etc 14sub-model);

Quidway S3300 series Switches(including: S3326C-HI, S3328TP-EI-MC,S3328TP-SI/EI,3328TP-PWR-EI,S3328TP-EI-24S,S3352P-SI/EI,S3352P-PWR-EI,S3352P-EI—24S, 3352P-EI-48S);

Quidway S2300 series switches;

AR Series Agile Gateways (including: AR160-M Series Agile Gateways, AR500 Series Agile Gateways, AR510 Series Agile Gateways);

ME60 Multi-Service Control Gateways;

AR3200 Series Enterprise Routers(AR3260);

AR2200 Series Enterprise Routers(AR2201-48FE,AR2202-

48FE,AR2220,AR2220E);

AR1200 Series Enterprise Routers;

NetEngine Series Routers(including: NetEngine5000E Cluster Routers,

NE5000E,NetEngine 40E Series Universal Service Routers;

NetEngine 20E-S Series Universal Service Routers;

NE05E/08E Series Mid-range Service Routers;

AtomEngine Service Products;

ATN series(including: ATN905,ATN910B,ATN910I);

WLAN Access Controller Products(AC6005,AC6605,ACU2);

Broadband access products(DBS3900 , eCNS600,etc);

Vcm5020,vcm5010, vcn3010,vcn3020;

SmartAX MA5600T;

SmartAX MA5800 Series OLTs ;

UA5000 Multi-Service Access Platform ;

SmartAX MA5620 Series Fiberoptic MDUs ;

USG6300, USG6600,USG9500 AND NIP6000.

All those products infringe at least claim 1, claim7, claim13 and claim 29 of the ' 259Reissue patent under 35 U.S.C. § 271(a),(b) and(c).

21. At least since 2011 when plaintiff emailed the U.S. patent No. 7652903 to a VP of Huawei(attached as Exhibit N) Huawei Defendants have had knowledge of and notice of the claim 1' of the ' 259 Reissue patent, claim 1 of plaintiff 's patent rights, and the Huawei Defendants' infringement. On information and belief, Huawei Defendants have continued their infringement despite an objectively high likelihood that their actions constitute infringement of a valid patent (*i.e.*, the '259Reissue patent). Huawei Defendants were made aware and, therefore, knew of the risk that they infringed the '259Reissue patent. Accordingly, Huawei Defendants acted knowingly, willfully, and with intent to induce their costumer to infringe the patents-in-suit.

22. Huawei Defendants' acts of infringement have caused damage to Xiaohua Huang, and Xiaohua Huang is entitled to recover from the Huawei Defendants for the damages sustained by Xiaohua Huang as a result of Huawei Defendants' wrongful acts in an amount subject to proof at trial. Huawei Defendants' infringement of Xiaohua Huang exclusive rights under the '259 Reissue patent will continue to damage Xiaohua Huang, causing irreparable harm for

which there is no adequate remedy at law, unless enjoined by this Court. Huawei Defendants' infringement is willful and deliberate, including because the Huawei Defendants became aware of the infringing nature of their products and services at the year of 2011, entitling Xiaohua Huang to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 6744653

23. Plaintiff refers to and incorporates herein the allegations of Paragraphs 1-17 above.

24. On June1, 2004, U.S. Patent No.6744653(the "'653Patent") was duly and legally issued for a "CAM cells and differential sense circuit for content addressable memory(CAM)." A true and correct copy of the '653 patent is attached hereto as Exhibit B. Xiaohua Huang as inventor is the owner of all rights, title, and interest in and to the ' 653 patent.

25. On information and belief, Huawei Defendants have infringed and continue to infringe directly, indirectly, literally one or more of the claims of the '653 patent. Huawei Defendants manufacture, use, sell, import, and/or offer to sell infringing products, including but not limited to:

CloudEngine 5800 Series Data Center Switches;

S2700 Series Enterprise Switches;

AR Series Agile Gateways;

AR3200 Series Enterprise Routers;

AR2200 Series Enterprise Routers;

AR1200 Series Enterprise Routers;

AR150 Series Enterprise Routers;

NetEngine5000E Cluster Routers;

NetEngine 20E-S Series Universal Service Routers;

AC6005 Access Controller;

SmartAX MA5620;

USG6600;

CloudEngine 12800 SeriesData Center Switches(CE12816,CE12812, CE12808,CE12804 and CE12804S);

CloudEngine 8800 SeriesData Center Switches;

CloudEngine 7800 SeriesData Center Switches;

CloudEngine 6800 SeriesData Center Switches(CE6851-48S6Q-HI, CE6850-48T6Q-HI, CE6850U-24S2Q-HI, CE6810-48S4Q-LI); CloudEngine 5800 SeriesData Center Switches(CE5855-48T4S2Q-EI,CE5855-24T4S2Q-EI, CE5810-48T4S-EI,CE5850-48T4S2Q-HI, CE5810-24T4S-EI);

S9700 Series Agile Switches(S9712,S9706,S9703);

S7700 Series Agile Switches(S7712,S7706,S7703);

S6720 Series Agile Switches(S6720-30C-EI-24S-AC, S6720-54C-EI-48S-AC, S6720-26Q-EI-24S-AC,S6720S-26Q-EI-24S-DC,S6720-30C-EI-24S-DC);

S6700 Series Agile Switches; S5720-SI Series Agile Fixed Switches(S5720S-28P-SI-AC,S5720S-28X-SI-AC,S5720-28P-SI-AC,S5720-52P-SI-AC,S5720S-52X-SI-AC);

S5720-HI Series Agile Fixed Switches; S5720-EI Series Agile Fixed Switches;

S5700-SI Series Standard Gigabit Switches;

S5700-SI Series Simplified Gigabit Switches;

S5700-HI Series Enhanced Gigabit Switches;

S5700-HI Series Advanced Gigabit Switches;

S3700 Series Enterprise Switches;

S2700 Series Enterprise Switches;

S9300 Series Terabit Routing Switches(S9303,S9306,S9312);

S9300E Series Terabit Routing Switches;

S6300 Series Switches(S6324-EI,S6348-EI);

S5300-LI Series Gigabit Enterprise Switches;

S5320-EI Series Enhanced Gigabit Switches(S5320-32P-EI-AC, S5320-32P-EI-DC, S5320-32X-EI-AC, etc, total 20 sub-model);

S5300-LI Series Gigabit Enterprise Switches(S5300-28P-LI-AC,S5300-28P-LI-DC,S5300-52P-LI-AC,S5300-52P-LI-DC,S5306TP-LI-AC,etc 14sub-model);

Quidway S3300 series Switches(including: S3326C-HI, S3328TP-EI-MC,S3328TP-SI/EI,3328TP-PWR-EI,S3328TP-EI-24S,S3352P-SI/EI,S3352P-PWR-EI,S3352P-EI—24S, 3352P-EI-48S);

Quidway S2300 series switches;

AR Series Agile Gateways (including: AR160-M Series Agile Gateways, AR500 Series Agile Gateways, AR510 Series Agile Gateways);

ME60 Multi-Service Control Gateways;

AR3200 Series Enterprise Routers(AR3260);

AR2200 Series Enterprise Routers(AR2201-48FE,AR2202-

48FE,AR2220,AR2220E);

AR1200 Series Enterprise Routers;

NetEngine Series Routers(including: NetEngine5000E Cluster Routers,

NE5000E,NetEngine 40E Series Universal Service Routers;

NetEngine 20E-S Series Universal Service Routers;

NE05E/08E Series Mid-range Service Routers;

AtomEngine Service Products;

ATN series(including: ATN905,ATN910B,ATN910I);

WLAN Access Controller Products(AC6005,AC6605,ACU2);

Broadband access products(DBS3900 , eCNS600,etc);

Vcm5020,vcm5010, vcn3010,vcn3020;

SmartAX MA5600T;

SmartAX MA5800 Series OLTs ;

UA5000 Multi-Service Access Platform ;

SmartAX MA5620 Series Fiberoptic MDUs ;

USG6300, USG6600,USG9500 AND NIP6000.

All those products infringe at least claim 1 and claim 5 of the ' 653 patent under 35 U.S.C. § 271.

26. At least since 2011 when Xiaohua Huang emailed the U.S. patent No. 6744653 to a VP of Huawei, Huawei Defendants have had knowledge of and notice of the '653 patent, Xiaohua Huang's patent rights, and the Huawei Defendants' infringement. On information and belief, Huawei Defendants have continued their infringement despite an objectively high likelihood that their actions constitute infringement of a valid patent (*i.e.*, the '653 patent). Huawei Defendants were made aware and, therefore, knew of the risk that they infringed the '653 patent. Accordingly, Huawei Defendants acted knowingly, willfully, and with intent, inducement and contributory to infringe the patents-in-suit.

27. Huawei Defendants' acts of infringement have caused damage to Xiaohua Huang, and Xiaohua Huang is entitled to recover from the Huawei Defendants for the damages sustained by

Xiaohua Huang as a result of Huawei Defendants' wrongful acts in an amount subject to proof at trial. Huawei Defendants' infringement of Xiaohua Huang's exclusive rights under the '653 patent will continue to damage Xiaohua Huang, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court. Huawei Defendants' infringement is willful and deliberate, including because the Huawei Defendants became aware of the infringing nature of their products and services at the year of 2011, entitling Xiaohua Huang to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 6999331

28. Plaintiff refers to and incorporates herein the allegations of Paragraphs 1-17 above.

29. On Feb.14, 2006, U.S. Patent No. 6999331(the "'331Patent") was duly and legally issued for a "CAM cells and differential sense circuit for content addressable memory(CAM)." A true and correct copy of the '331 patent is attached hereto as Exhibit C. Xiaohua Huang as inventor is the owner of all rights, title, and interest in and to the ' 331 patent.

30. On information and belief, Huawei Defendants have infringed and continue to infringe directly, indirectly, literally one or more of the claims of the '331 patent. Huawei Defendants manufacture, use, sell, import, and/or offer to sell infringing products and/or services, including but not limited to:

CloudEngine 5800 Series Data Center Switches;

S2700 Series Enterprise Switches;

AR Series Agile Gateways;

AR3200 Series Enterprise Routers;

AR2200 Series Enterprise Routers;

AR1200 Series Enterprise Routers;

AR150 Series Enterprise Routers;

NetEngine5000E Cluster Routers;

NetEngine 20E-S Series Universal Service Routers;

AC6005 Access Controller;

SmartAX MA5620;

USG6600;

CloudEngine 12800 SeriesData Center Switches(CE12816,CE12812, CE12808,CE12804 and CE12804S);

CloudEngine 8800 SeriesData Center Switches;

CloudEngine 7800 SeriesData Center Switches;

CloudEngine 6800 SeriesData Center Switches(CE6851-48S6Q-HI, CE6850-48T6Q-HI, CE6850U-24S2Q-HI, CE6810-48S4Q-LI); CloudEngine 5800 SeriesData Center Switches(CE5855-48T4S2Q-EI,CE5855-24T4S2Q-EI, CE5810-48T4S-EI,CE5850-48T4S2Q-HI, CE5810-24T4S-EI);

S9700 Series Agile Switches(S9712,S9706,S9703);

S7700 Series Agile Switches(S7712,S7706,S7703);

S6720 Series Agile Switches(S6720-30C-EI-24S-AC, S6720-54C-EI-48S-AC, S6720-26Q-EI-24S-AC,S6720S-26Q-EI-24S-DC,S6720-30C-EI-24S-DC);

S6700 Series Agile Switches; S5720-SI Series Agile Fixed Switches(S5720S-28P-SI-AC,S5720S-28X-SI-AC,S5720-28P-SI-AC,S5720-52P-SI-AC,S5720S-52X-SI-AC);

S5720-HI Series Agile Fixed Switches; S5720-EI Series Agile Fixed Switches;

S5700-SI Series Standard Gigabit Switches;

S5700-SI Series Simplified Gigabit Switches;

S5700-HI Series Enhanced Gigabit Switches;

S5700-HI Series Advanced Gigabit Switches;

S3700 Series Enterprise Switches;

S2700 Series Enterprise Switches;

S9300 Series Terabit Routing Switches(S9303,S9306,S9312);

S9300E Series Terabit Routing Switches;

S6300 Series Switches(S6324-EI,S6348-EI);

S5300-LI Series Gigabit Enterprise Switches;

S5320-EI Series Enhanced Gigabit Switches(S5320-32P-EI-AC, S5320-32P-EI-DC, S5320-32X-EI-AC, etc, total 20 sub-model);

S5300-LI Series Gigabit Enterprise Switches(S5300-28P-LI-AC,S5300-28P-LI-DC,S5300-52P-LI-AC,S5300-52P-LI-DC,S5306TP-LI-AC,etc 14sub-model);

Quidway S3300 series Switches(including: S3326C-HI, S3328TP-EI-MC,S3328TP-SI/EI,3328TP-PWR-EI,S3328TP-EI-24S,S3352P-SI/EI,S3352P-PWR-EI,S3352P-EI—24S, 3352P-EI-48S);

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AR3200 Series Enterprise Routers(AR3260);

AR2200 Series Enterprise Routers(AR2201-48FE,AR2202-

48FE,AR2220,AR2220E);

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NetEngine 20E-S Series Universal Service Routers;

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ATN series(including: ATN905,ATN910B,ATN910I);

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Broadband access products(DBS3900 , eCNS600,etc);

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UA5000 Multi-Service Access Platform ;

SmartAX MA5620 Series Fiberoptic MDUs ;

USG6300, USG6600,USG9500 AND NIP6000.

All those products infringe at least claim 1 of the ' 331patent under 35 U.S.C. § 271.

31. At least since 2011 when Xiaohua Huang emailed the U.S. patent No. 6999331 to a VP of Huawei, Huawei Defendants have had knowledge of and notice the '331 patent, Xiaohua Huang's patent rights, and the Huawei Defendants' infringement. On information and belief, Huawei Defendants have continued their infringement despite an objectively high likelihood that their actions constitute infringement of a valid patent (*i.e.*, the '331 patent). Huawei Defendants were made aware and, therefore, knew of the risk that they infringed the '331 patent.

Accordingly, Huawei Defendants acted knowingly, willfully, and with intent, inducement and contributory to infringe the patents-in-suit.

32. Huawei Defendants' acts of infringement have caused damage to Xiaohua Huang, and Xiaohua Huang is entitled to recover from the Huawei Defendants for the damages sustained by Xiaohua Huang as a result of Huawei Defendants' wrongful acts in an amount subject to proof at trial. Huawei Defendants' infringement of Xiaohua Huang's exclusive rights under the '331 patent will continue to damage Xiaohua Huang, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court. Huawei Defendants' infringement is willful and deliberate, including because the Huawei Defendants became aware of the infringing nature of their products and services at the year of 2011, entitling Xiaohua Huang to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

JURY DEMAND

33. Pursuant to Fed. R. Civ. P. 38(b), plaintiff requests a trial by jury on all issues.

PRAYER FOR RELIEF

WHEREFORE, Xiaohua Huang prays for the following relief:

(a). A judgment in favor of Xiaohua Huang that Defendant has infringed and is infringing U.S. Patent Nos. 6744653, 6999331, and RE45259;

(b). A judgment that the '653 patent,'331patent and 259Reissue are valid and enforceable;

(c). A judgment that Defendant's infringement of the '653 patent,'331patent and '259Reissue is willful;

(d). An order preliminarily and permanently enjoining Defendant and its subsidiaries, parents, officers, directors, agents, servants, employees, affiliates, attorneys and all others in active concert or participation with any of the foregoing, from further acts of infringement of the '653patent,'331patent and 259Reissue patent;

(e). An accounting for damages resulting from Defendant's infringement of the '653 patent,'331patent and '259Reissue and the trebling of such damages because of the willful nature of Defendant's infringement;

(f). An assessment of interest on damages;

(g). A judgment awarding damages to Xiaohua Huang for its costs, disbursements, expert witness fees, and attorneys' fees and costs incurred in prosecuting this action, with interest, including damages for an exceptional case pursuant to 35 U.S.C. § 285 and as otherwise provided by law;

(h). Such other and further relief as this Court may deem just and equitable.

Dated: December28, 2016

Respectfully Submitted,

Xiaohua Huang
900 E. Hamilton Ave, Room100
Campbell, CA95008
Email: xiaohua_huang@hotmail.com
Tel: 408 888 4916

Exhibit A Declaration of Xiaohua Huang on '653Patent

Exhibit B Declaration of Xiaohua Huang on '331Patent

Exhibit C Declaration of Xiaohua Huang on '259Reissue

Exhibit D Declaration of Xiaohua Huang that HiSilicon licensed eSilicon's TCAM

Exhibit E Declaration of Xiaohua Huang on eFlexCAM Boucher

Exhibit F Declaration of Xiaohua Huang on Reverse Engineering of the chips of Broadcom

Exhibit L Declaration of Xiaohua Huang on Huawei NE5000E use Netlogic's TCAM chip

Exhibit OP Declaration of Xiaohua Huang on Huawei's products sold in USA and the Products sold in China are same.

Exhibit OP1 Declaration of Xiaohua Huang on the Declaration of Huawei's personal that Huawei has used TCAM IP from eSilicon in the products sold outside the USA, but not for the products sold inside USA.

Exhibit N Declaration of Xiaohua Huang on email the patents to a VP of Huawei

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing instrument was served on all counsel and parties who have consented to electronic service on this 28 day of December, 2016 pursuant to Local Rule CV- 5(a)(3)(A).

Xiaohua Huang