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

M-RED INC.,	Plaintiff,	§	Case No.
v.		§	**JURY TRIAL DEMANDED**
NINTENDO CO., LTD.,	Defendant.	§	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff M-Red Inc. ("M-Red" or "Plaintiff") for its Complaint against Defendant Nintendo Co., Ltd. ("Defendant" or "Nintendo") alleges as follows:

THE PARTIES

1. M-Red is a corporation organized and existing under the laws of the State of Texas, with its principal place of business located at 100 W. Houston Street, Marshall, Texas 75670.

2. Upon information and belief, Defendant Nintendo is a corporation organized and existing under the laws of Japan, with its principal place of business located at 1-1 Hokotate-cho, Kamitoba, Minami-ku, Kyoto, Japan. Nintendo may be served with process pursuant to the provisions of the Hague Convention. Nintendo may also be served with process by serving the Texas Secretary of State at 1019 Brazos Street, Austin, Texas 78701 as its agent for service because it engages in business in Texas but has not designated or maintained a resident agent for service of process in Texas as required by statute.

3. Nintendo is a leading manufacturer and seller of consumer electronics and handheld game consoles in the United States. Upon information and belief, Defendant does business in Texas and in the Eastern District of Texas, directly or through intermediaries.

JURISDICTION

4. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq*. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has personal jurisdiction over Defendant. Defendant regularly conducts business and has committed acts of patent infringement and/or has induced acts of patent infringement by others in this Judicial District and/or has contributed to patent infringement by others in this Judicial District, the State of Texas, and elsewhere in the United States.

6. Defendant is subject to this Court's jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to its substantial business in this State and Judicial District, including (a) at least part of its past infringing activities, (b) regularly doing or soliciting business in Texas, and/or (c) engaging in persistent conduct and/or deriving substantial revenue from goods and services provided to customers in Texas.

7. For example, Nintendo has done and continues to do business in Texas; (ii) Nintendo has committed and continues to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling Accused Products in Texas, and/or importing Accused Products into Texas, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein; and (iii) Nintendo regularly places its products within the stream of commerce—directly, through subsidiaries, or through third parties—with the expectation and knowledge that such products, such as consoles and accessories, will be shipped to, sold, or used in Texas and elsewhere in the United States. Accordingly, Nintendo has established minimum contacts within Texas and purposefully availed itself of the

benefits of Texas, and the exercise of personal jurisdiction over Nintendo would not offend traditional notions of fair play and substantial justice.

8. Nintendo purposefully directs and controls the sale of the Accused Products into established United States distribution channels, including sales to nationwide retailers and for sale in Texas. Nintendo further places the Accused Products into international supply chains, knowing that the Accused Products will be sold in the United States, including Texas.

9. Venue is proper in this Judicial District pursuant to 28 U.S.C. § 1391 because, among other things, Defendant does not reside in the United States, and thus may be sued in any judicial district pursuant to 28 U.S.C. § 1391(c)(3).

PATENTS-IN-SUIT

10. On February 8, 2005 the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,853,259 (the "'259 Patent") entitled "Ring oscillator dynamic adjustments for auto calibration." A true and correct copy of the '259 Patent is attached hereto as Exhibit A.

11. On June 27, 2006 the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,068,557 (the "'557 Patent") entitled "Ring oscillator dynamic adjustments for auto calibration." A true and correct copy of the '557 Patent is attached hereto as Exhibit B.

12. On April 24, 2007 the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,209,401 (the "'401 Patent") entitled "Ring oscillator dynamic adjustments for auto calibration." A true and correct copy of the '401 Patent is attached hereto as Exhibit C.

13. On January 23, 2001, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,177,843 (the "'843 Patent") entitled "Oscillator circuit controlled

by programmable logic." A true and correct copy of the '843 Patent is attached hereto as Exhibit D.

14. On September 30, 2003, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 6,628,171 (the "'171 Patent") entitled "Method, architecture and circuit for controlling and/or operating an oscillator." A true and correct copy of the '171 Patent is attached hereto as Exhibit E.

15. M-Red is the assignee of all right, title and interest in the '259 Patent, the '557 Patent, the '401 Patent, the '843 Patent, and the '171 Patent, including the exclusive right to seek damages for past, current, and future infringement.

16. The '259, '557, and '401 Patents (the "Norman Patents") generally describe integrated circuits comprising voltage and temperate sensors which output a voltage and temperate and store the output in memory. The technology was developed by Robert D. Norman and Dominik J. Schmidt. The Norman Patents also describe methods for dynamically adjusting clock frequency based on voltage and temperature values. In some embodiments of the inventions, temperature sensors dynamically monitor environmental parameters and store these parameters on a memory. These temperature monitoring and power saving techniques are incorporated into integrated circuits ("ICs") and software utilized in Nintendo Accused Products. For example, this functionality is included and utilized in Nvidia System-on-a-Chips ("SoCs") used in Nintendo Accused Products, such as the Nvidia Tegra X1 included and utilized in the Nintendo Switch. For example, this functionality is included and utilized in Broadcom SoCs used in Nintendo Accused Products, such as the Broadcom BCM4356 used in the Nintendo Switch.

17. For example, Nintendo makes, uses, sells, offers for sale, and imports products with Nvidia SoCs, including the Tegra line of SoCs, and associated software, which adjust a clock

frequency based on variations in voltage and temperature. For example, Nvidia SoCs enable "GPU DVFS [] using the devfreq framework," which adjusts clock speeds based on load.[1] Upon information and belief, Nvidia SoCs further adjust for frequency drift by adjusting clock speeds based on variations in temperature and voltage. [2] According to Nvidia, the DVFS "algorithm has very fine control over the frequency levels . . . ."[3] Additionally, the "[d]uring period of low GPU utilization, GPU clocks and voltage can be dropped to lower levels to greatly reduce idle power consumption. When an incoming task is detected, the frequency and voltage levels are immediately increased to the appropriate operating values to ensure higher performance. The DVFS software intelligently raises the voltage and frequency only up to a level that is required to deliver the performance demanded by the application. ."[4]

18. For example, Nintendo makes, uses, sells, offers for sale, and imports products with Broadcom SoCs including Wireless LAN/Bluetooth Combo chips and embedded processors, which adjust a clock frequency based on variations in voltage and temperature. For example, Broadcom SoCs include "Adaptive Voltage Scaling" ("AVS") functionality which "also supports [dynamic frequency scaling] and DVFS mode".[5] Broadcom's AVS functionality adjusts a clock frequency based on at least variations in temperature and voltage.[6] For example, Broadcom SoCs

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[1] https://docs.nvidia.com/jetson/l4t/index.html#page/Tegra%20Linux%20Driver%20Package%20Development%20Guide/introduction.html; *see also* https://docs.nvidia.com/jetson/l4t/index.html#page/Tegra%20Linux%20Driver%20Package%20Development%20Guide/power_management_nano.html

[2] *See* https://www.nvidia.com/en-us/geforce/forums/gaming-pcs/8/116552/ram-bandwidth-200-bclk-i3-Lenovo-p7h55/

[3] https://www.nvidia.com/docs/IO/116757/Tegra_4_GPU_Whitepaper_FINALv2.pdf

[4] *Id.*
Power vs. Performance Management of the CPU, Qualcomm, (retrieved April 29, 2019), https://www.qualcomm.com/news/onq/2013/10/25/power-vs-performance-management-cpu.

[5] https://github.com/torvalds/linux/blob/master/drivers/cpufreq/brcmstb-avs-cpufreq.c

[6] *Id.*

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