The Honorable Darrell Issa
U.S. House of Representatives
2108 Rayburn House Office Building
Washington, DC 20515

The Honorable Hank Johnson
U.S. House of Representatives
2240 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Issa and Ranking Member Johnson:

cc: Chairman Jim Jordan, Ranking Member Jerrold Nadler

***

Statement for the Record
Constellation Designs LLC

House Judiciary Subcommittee on Courts, Intellectual Property, and the Internet

"The U.S. Intellectual Property System and the Impact of Litigation Financed by Third-Party Investors and Foreign Entities"
June 12, 2024

I respectfully submit this written statement for the record to the U.S. House Subcommittee on Courts, Intellectual Property, and the Internet (Committee on the Judiciary) in relation to the hearing set for June 12, 2024, at 2 P.M. ET titled, "The U.S. Intellectual Property System and the Impact of Litigation Financed by Third-Party Investors and Foreign Entities."

My name is Christopher Jones, and I'm a U.S. inventor. I thank the U.S. House Subcommittee on Courts, Intellectual Property, and the Internet, Chairman Issa, and Ranking Member Johnson for the opportunity to provide my perspective on the impact of litigation financed by third-party investors to our system of innovation.

My path to inventorship started when I was a kid in Arizona. I was often tinkering with electronics and building things with my dad. I followed him around the garage, watching him fix TVs and building radio-controlled airplanes together.

That led me to the University of California, Los Angeles, where I studied electrical engineering and graduated with the honor of "Most Outstanding Senior." At UCLA, I worked on several Defense Advanced Research Projects Agency ("DARPA") projects in image

compression and transmissions. As an example, a system we worked on would acquire a digital image, compress it, send it over a link, decompress it, and then display it. And we'd do each of these specialized functions through reconfiguration of a single chip called a field-programmable gate array. Our work had applications in automatic target recognition—e.g., if you're flying over a battlefield, you could perform high speed identification of targets, for example, tanks in a battlefield by reconfiguring the chip with different matching templates.

After getting my bachelor's and master's degree from UCLA, I headed to Broadcom at a time when it was revolutionizing cable. There, I developed and patented foundational technology related to cable modems and direct broadcast via satellite. The environment at Broadcom ultimately introduced me to technical entrepreneurism and the value of developing fundamentally new technologies.

I thought getting a Ph.D. would be the next logical step as many of the key people at Broadcom had pursued Ph.Ds. Broadcom agreed that I would remain on staff while studying turbo codes—a type of error correction technology for data transmission—as part of my Ph.D. Researching turbo codes turned out to be useful because, within 18 months at UCLA, Broadcom found application of the codes that I had been developing for use in a direct broadcast satellite system. This technology helped Broadcom win a socket at Dish Network, which meant that Broadcom would provide the chip that went into the circuit board for Dish Network's devices. That work became Broadcom proprietary, so I pivoted my studies to focus on low density parity check codes, another type of error correction technology. And when I presented my dissertation, a section lead from the Jet Propulsion Lab in Pasadena—a division of NASA associated with the California Institute of Technology—was in the audience and invited me to give a talk. A few weeks later, I was working for NASA.

There, I co-authored the Consultative Committee for Space Data Systems "blue book," which defines the wave forms and codes used to communicate between the earth and probes—communication across large distances in space. I also contributed flight firmware for JPL missions to implement the blue book codes described above. One such firmware has yielded a 70% increase in the data return capability of the Mars 2020 "Perseverance" rover. These designs and their derivatives have been used in 3 NASA missions and one European Space Agency mission to date. At NASA, we were focused on reliable transmission over long distances, but I became interested in how to apply similar principles to short-distance, high-speed transmissions. My colleague, Dr. Maged Barsoum, and I developed groundbreaking technology for short-data transmission using non-uniform constellations optimized for parallel decode capacity and shared our results at the International Symposium on Information Theory in 2007. NASA and CalTech agreed to allow us to pursue the invention further, provided that the government receive a free-use license.

We then started on the very expensive, time-consuming, and difficult path of prosecuting our patents with the U.S. Patent and Trademark Office. Today, we have more than two dozen patents related to our inventions.

Once we had patents on file, we approached various potential partners in industry to find a partner to commercialize the technology. We did not have the funds to start a television manufacturing company; that would have been an impossible lift. We approached Broadcom, but we never managed to get a partnership going. It was frustrating because we knew that we really had something, and we had started our patent portfolio thinking that someone would license or purchase it to develop all kinds of new businesses and designs, but no one wanted to take us up on that approach.

Although we could not find a commercial partner, we were heartened when we learned that the Advanced Television Systems Committee ("ATSC") was interested in our work. I remember almost the precise moment I realized that ATSC 3.0 might use something related to our inventions: They referenced our work as the first to optimize for parallel decode capacity in one dimension.

It was bittersweet. On one hand, we had great belief that our technology was becoming part of a broadcast standard; that was a big deal. But, on the other hand, no one had contacted us or responded to our outreach despite our efforts to build partnerships. We felt completely ignored.

For example, we reached out to someone at LG and Zenith Electronics, who had licensed technology for the earlier broadcast standards. But LG/Zenith responded that they had "zero/no interest," completely shutting us down.

At that point, we realized that without significant monetary resources, our inventions would be implemented without us and without any credit or compensation. We needed some serious investors behind us to make real progress. We ended up selling our patent portfolio to investors from Fortress Investment Group, and Fortress formed "Constellation Designs LLC." Constellation Designs LLC had both the funding and wherewithal to initiate a licensing campaign, instead of just asking for a partner. I provide ongoing support to Constellation Designs LLC and have a financial stake in the outcome of their licensing and enforcement efforts.

In 2021, after licensing discussions broke down, Constellation Designs LLC brought suit against LG to enforce our patent rights for their use of our technology in their NextGen TVs. After a lengthy and expensive process, I testified in a jury trial in summer of 2023. The jury found that LG was not only using our inventions, but also awarded a royalty of $6.75 per TV for that use, definitively recognizing the value of the technology. The jury also rejected LG's arguments that the patents were invalid and found that LG was acting willfully—deliberately and intentionally—in infringing on our patents.

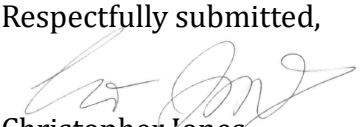
It was a hard decision to bring investors in, but it was the right one. I started down this path 17 years ago. I really believe in this technology, and I believe that we have the right to consideration when it is being used without our permission. But that journey is incredibly expensive. Patent prosecution itself takes tremendous resources. In our case, we had to defend the validity of our patent rights in both district court against LG's

accusations of invalidity, as well as before the Patent Trial and Appeal Board, where LG raised additional challenges.

Without bringing on investors, I could not have defended my rights and brought LG into a court of law, before a jury, and told my story. The journey is not over: LG, for its part, has decided to appeal the jury's decision. Without the resources afforded by Fortress's investment, we would have had no shot of defending our patent rights in district court, let alone through post-trial proceedings and the now-pending appeal. Access to third-party funding, whether that is direct investment or via litigation funding, helps to level the playing field between well-resourced infringers and inventors.

I again thank the U.S. House Subcommittee on Courts, Intellectual Property, and the Internet, Chairman Issa, and Ranking Member Johnson for the opportunity to provide my perspective.

Respectfully submitted,



Christopher Jones
Constellation Designs LLC