

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MARVELL SEMICONDUCTOR, INC.,
Petitioner,

v.

CREDO TECHNOLOGY GROUP LTD.,
Patent Owner.

Case IPR2025-01218
U.S. Patent No. 10,877,233

DECLARATION OF TIM A. WILLIAMS

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I. ASSIGNMENT

1. I have been retained on behalf of Credo Technology Group., Ltd. (“Patent Owner” or “Credo”) to offer technical opinions related to U.S. Patent No. 10,877,233 (“the ’233 patent”) (Ex-1001). I understand that Credo is requesting that the Patent Trial and Appeal Board (“PTAB” or “Board”) find that Petitioner Marvell Semiconductor, Inc. (“Petitioner” or “Marvell”) failed to prove that any claim of the ’233 Patent is unpatentable in this *inter partes* review (“IPR”) proceeding.

2. I have been asked to provide my independent analysis of the Petition regarding the ’233 patent.

3. I am not and never have been, an employee of Credo. I received no compensation for this declaration beyond my normal hourly compensation based on my time actually spent analyzing the ’233 patent, the Petition, the cited references in the Petition, and issues related thereto, and I will not receive any added compensation based on the outcome of any IPR or other proceeding involving the ’233 patent.

II. QUALIFICATIONS AND BACKGROUND INFORMATION

4. I am an independent consultant. All of my opinions stated in this declaration are based on my own personal knowledge and professional judgment.

In formulating my opinions, I have relied upon my knowledge, training, and experience in the relevant art.

5. I am over 18 years of age, and, if I am called upon to do so, I would be competent to testify as to the matters set forth herein. Although my qualifications are stated more fully in my *curriculum vitae*, attached hereto as Appendix A, I provide below a brief summary of my qualifications.

6. I earned a Bachelor of Science degree in Electrical Engineering (BSEE) from Michigan Technological University in 1976. In 1982, I earned a Master's degree, also in Electrical Engineering (MSEE), from the University of Texas at Austin. I earned a Doctor of Philosophy (Ph.D.), also from the University of Texas at Austin, in 1985. My doctorate dissertation was "Digital Signal Processing Techniques for Acoustic Log Data." In 1991, I earned a Master of Business Administration degree from the University of Texas at Austin as well.

7. I have over 40 years of professional experience in wireless communications and telecom technology, including roles in large corporations as well as start-ups and consulting work.

8. For example, from 1979 through 1991, I held the positions of Senior Engineer, Senior Member of the Technical Staff, and Member of the Technical Staff at Motorola, Inc. My work at Motorola included serving as business manager,

project leader, and senior technical member for projects relating to the development of various cellular modems, transceivers, and transcoders.

9. As another example, in 1991, I co-founded Wireless Access, Inc., a start-up company focused on the Narrow Band PCS equipment market and which developed the over-the-air protocols, subscriber equipment, and integrated circuits to deploy 2-way paging services. I held the positions of Co-Founder, Chief Technical Officer, Vice President of Engineering, and Vice President of Business Strategy at Wireless Access until it was sold to Glenarye Electronics in 1998.

10. As another example, between 1998 and 2000, I was the Chief Technology Officer and Advisory Board Member of Picazo Communications, which built and sold software PBXs Telephony equipment using VoIP and Circuit Switched Technologies.

11. As another example, in 2004, I founded DoceoTech Inc., which provides training for engineers in Wireless, Networking, and Telephony technologies. Since 2004, I have served as DoceoTech's Chairman.

12. I hold over 25 United States patents in wireless and signal processing technology, as well as numerous patent applications in the same field. Additionally, I am a Patent Agent registered with the U.S. Patent and Trademark Office since January 2002. Further, I have served as a technical expert in multiple patent proceedings.

13. My *curriculum vitae*, included as an appendix to this declaration, includes a list of publications on which I am a named author. It contains further details regarding my experience, education, publications, and other qualifications to render an expert opinion in connection with this proceeding.

14. I have reviewed the '233 patent, the Petition, the references cited in the Petition, and the references cited herein.

15. I have no financial interest in the outcome of this proceeding. I am being compensated for my work as an expert on an hourly basis. My compensation is not dependent on the outcome of these proceedings or the content of my opinions.

16. My opinions, as explained below, are based on my education, experience, and expertise in the fields relating to the '233 Patent. Unless otherwise stated, my testimony below refers to the knowledge of one of ordinary skill in the art as of the priority date. Any figures that appear within this document have been prepared with the assistance of Counsel and reflect my understanding of the cited references in the Petition.

III. LEVEL OF ORDINARY SKILL IN THE ART

17. A person of ordinary skill in the art ("POSITA") as of the Critical Date would have had an undergraduate degree in electrical engineering or electrical and computer engineering, or equivalent knowledge, training, or

experience, with at least three years of experience working in high speed data communication. A higher level of education may substitute for less experience, and *vice versa*.

18. Petitioner asserts a similar level of ordinary skill in the art. Petition at 14-15; Ex-1003, ¶¶29-32. Under either definition, as of the Critical Date, I would have met the qualifications of a person of ordinary skill in the art.

IV. LEGAL STANDARDS

A. Terminology

19. I have been informed by Counsel and understand that the best indicator of claim meaning is its usage in the context of the patent specification as understood by one of ordinary skill. I further understand that the words of the claims should be given their plain meaning unless that meaning is inconsistent with the patent specification or the patent's history of examination before the Patent Office. Counsel has also informed me, and I understand that, the words of the claims should be interpreted as they would have been interpreted by one of ordinary skill at the time of the invention was made (not today). The '233 patent was filed November 27, 2019, which I refer to as the "Critical Date" in this proceeding.

B. Legal Standards

20. I have been informed by Counsel and understand that documents and materials that qualify as prior art can render a patent claim unpatentable as being anticipated or obvious.

21. I am informed by Counsel and understand that all prior art references are to be looked at from the viewpoint of a person of ordinary skill in the art at the time of the invention, and that this viewpoint prevents one from using his or her own insight or hindsight in deciding whether a claim is anticipated or rendered obvious.

C. Anticipation

22. I understand that patents or printed publications that qualify as prior art can be used to invalidate a patent claim as anticipated or as obvious.

23. I understand that, once the claims of a patent have been properly construed, the second step in determining anticipation of a patent claim requires a comparison of the properly construed claim language to the prior art on a limitation-by-limitation basis.

24. I understand that a prior art reference “anticipates” an asserted claim, and thus renders the claim invalid, if all limitations of the claim are disclosed in that prior art reference, either explicitly or inherently (i.e., necessarily present).

D. Obviousness

25. I understand that even if a patent is not anticipated, it is still invalid if the differences between the claimed subject matter and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a POSITA.

26. I have been informed by Counsel and understand that a claim is unpatentable for obviousness and that obviousness may be based upon a combination of references. I am informed by Counsel and understand that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. However, I am informed by Counsel and understand that a patent claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.

27. I am informed by Counsel and understand that when a patented invention is a combination of known elements, a court determines whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue by considering the teachings of prior art references, the effects of demands known to people working in the field or present in the marketplace, and the background knowledge possessed by a person having ordinary skill in the art.

28. I am informed by Counsel and understand that a patent claim composed of several limitations is not proved obvious merely by demonstrating that each of its limitations was independently known in the prior art. I am informed by Counsel and understand that identifying a reason those elements would be combined can be important because inventions in many instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known. I am informed by Counsel and understand that it is improper to use hindsight in an obviousness analysis, and that a patent's claims should not be used as a "roadmap."

29. I am informed by Counsel and understand that an obviousness inquiry requires consideration of the following factors: (1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any so called "secondary considerations" of non-obviousness, which include: (i) "long felt need" for the claimed invention, (ii) commercial success attributable to the claimed invention, (iii) unexpected results of the claimed invention, and (iv) "copying" of the claimed invention by others.

30. I have been informed by Counsel and understand that an obviousness evaluation can be based on a single reference or a combination of multiple prior art references. I understand that the prior art references themselves may provide a

suggestion, motivation, or reason to combine, but that the nexus linking two or more prior art references is sometimes simple common sense. I have been informed by Counsel and understand that obviousness analysis recognizes that market demand, rather than scientific literature, often drives innovation, and that a motivation to combine references may be supplied by the direction of the marketplace.

31. I have been informed by Counsel and understand that if a technique has been used to improve one device, and a person of ordinary skill at the time of invention would have recognized that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

32. I have been informed by Counsel and understand that practical and common sense considerations should guide a proper obviousness analysis, because familiar items may have obvious uses beyond their primary purposes. I have been informed by Counsel and understand that a person of ordinary skill looking to overcome a problem will often be able to fit together the teachings of multiple prior art references. I have been informed by Counsel and understand that obviousness analysis therefore takes into account the inferences and creative steps that a person of ordinary skill would have employed at the time of invention.

33. I have been informed by Counsel and understand that a proper obviousness analysis focuses on what was known or obvious to a person of ordinary skill at the time of invention. Accordingly, I understand that any need or problem known in the field of endeavor at the time of invention can provide a reason for combining the elements in the manner claimed.

34. I have been informed by Counsel and understand that a claim can be obvious in light of a single reference, without the need to combine references, if the elements of the claim that are not found explicitly or inherently in the reference can be supplied by the common sense of one of skill in the art.

35. I have been informed by Counsel and understand that in an *inter partes* review, “the petitioner shall have the burden of proving a proposition of unpatentability,” including a proposition of obviousness, “by a preponderance of the evidence.” 35 U.S.C. §316(e).

V. SUMMARY OF THE '233 PATENT

36. The '233 Patent is directed to a cable “employing preset transmit-side equalization to provide enhanced performance and/or to reduce receive-side equalization requirements.” Ex-1001, Abstract, 1:45-48. The cable of the '233 Patent includes first and second connectors 100, 101 electrically connected via electrical conductors 106. *Id.*, 3:36-40. The electrical conductors 106 can be in a paired form with twinaxial conductors driven with a differential signal. *Id.*

37. Each connector 100, 101 includes “a powered transceiver that performs clock and data recovery (CDR) and re-modulation of data streams, hereafter called a data recovery and re-modulation (DRR) device.” *Id.*, 3:51-55. “The first and second DRR devices provide pre-equalization of the electrical transit signals [conveyed by the electrical conductors therebetween] using transmit filter coefficient values stored in nonvolatile memories.” *Id.*, Abstract; 1:44-2:30, 2:43-45.

38. The '233 Patent discloses that each of the connectors 100, 101 of the cable illustrated in FIG. 3A includes a DRR device 202, 204 “to perform CDR and re-modulation of the data streams entering and exiting the cable” at the respective connector. Ex-1001, 4:54-59. Each DRR device has “a set 220 of transmitters and receivers for communicating with the host device and a set 222 of transmitters and receivers for sending and receiving via conductor pairs running the length of the cable.” *Id.*, 5:16-20. An “embedded controller 228” in each DRR device “coordinates the operation of the transmitters and receivers” using a “set of registers 208.” *Id.*, 5:27-35.

39. The transmitter and receiver sets 210 and 212 are described as follows:

In at least some contemplated embodiments, the host-facing transmitter and receiver set 220 employ fixed equalization parameters that are cable-independent, i.e., they are not customized on a cable-by-cable basis. The

center-facing transmitter and receiver set 222 preferably employ cable-dependent equalization parameters that are customized on a cable-by-cable basis. The cable-dependent equalization parameters may be adaptive or fixed, and initial values for these parameters may be determined during manufacturer tests of the cable. The equalization parameters may include filter coefficient values for pre-equalizer filters in the transmitters, and gain and filter coefficient values for the receivers.

Ex-1001, 5:36-48.

40. Each connector 100, 101 also includes “a micro-controller unit (MCU) 206” that is coupled to and configures the operation of the connector’s DRR device. Ex-1001, 4:65-5:2. “At power-on, the MCU device 206 loads equalization parameters from Flash memory 207 into the DRR device’s configuration registers 208.” *Id.*, 5:3-5.

41. The cable illustrated in FIG. 3A forms “a part of a point-to-point communications link between two host devices 302, 304 as shown in the architectural diagram of FIG. 3B.” Ex-1001, 5:49-5:52, FIG. 3A-3B. The connectors 100, 101 of the cable illustrated in FIG. 3A have “plugs 200, 201” that fit standard-compliant Ethernet ports of the two host devices. *Id.*, 4:47-54.

VI. CLAIM CONSTRUCTION

42. It is my opinion that no claim construction is necessary for any of the terms of the ’233 Patent. For my analysis of the ’233 Patent, I have applied the plain and ordinary meaning of each claim term, as understood by a POSITA.

43. I understand that Petitioners have advanced a specific construction for the claim terms “inbound” and “outbound.” *See* Pet. at 15-16. My analysis herein would not change based on whether or not Petitioner’s construction is adopted.

VII. OVERVIEW OF THE CITED REFERENCES

A. Lugthart

44. Lugthart is directed to “[s]ystems and methods for high speed communications,” including “transceiver architectures and techniques for retiming, multiplexing, de-multiplexing and transmitting data.” Ex-1004, Abstract.

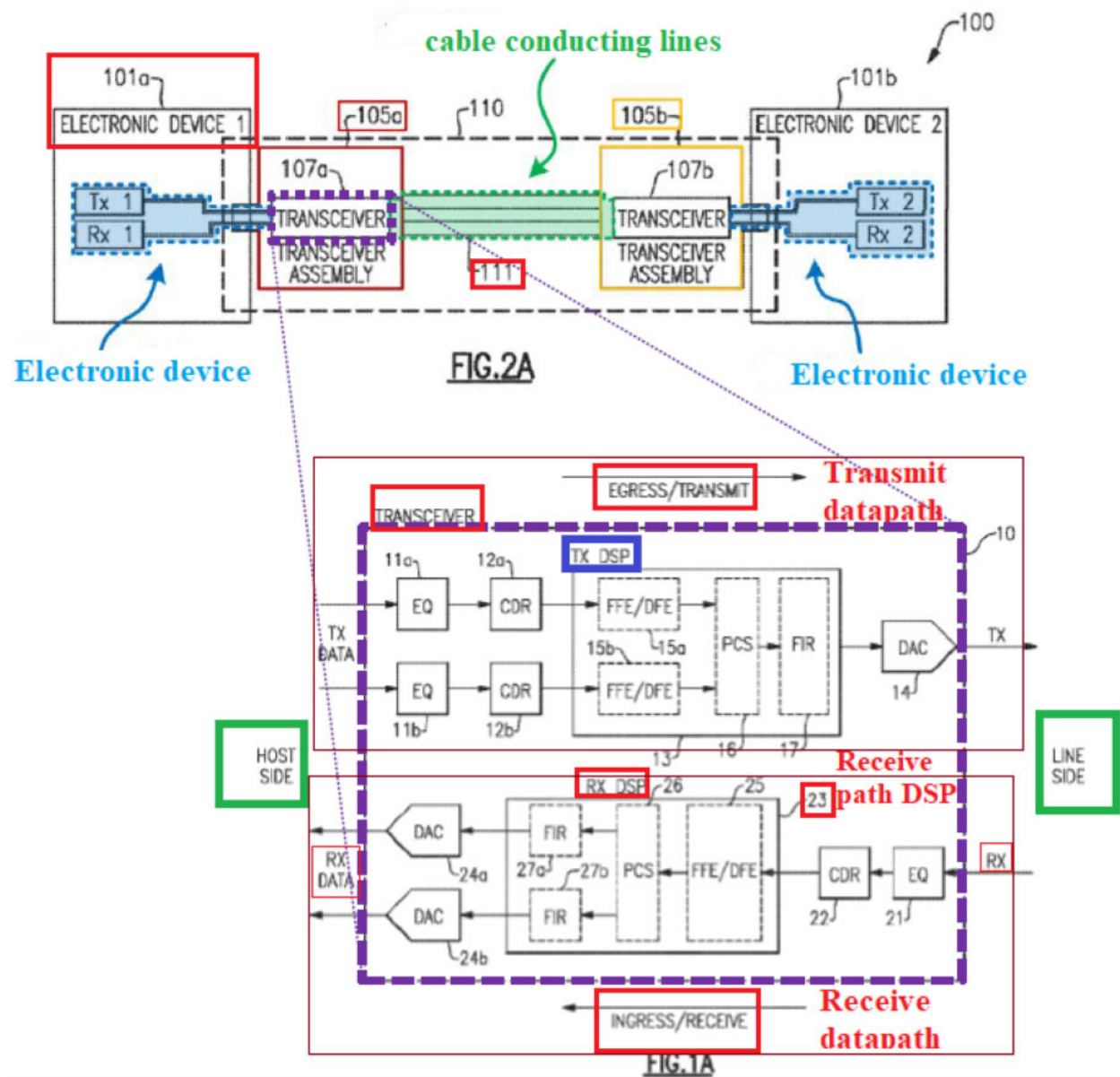
Specifically, Lugthart describes a transceiver system that interfaces between a host electronic device (e.g., electronic device 101a) and a line-side medium such as copper cable lines (e.g., cable conducting lines 111). *Id.*, FIGS. 1A, 2A, 4A, 4B.

45. Petitioner relies on an embodiment of Lugthart, FIG. 2A, which depicts a high-speed point-to-point communication system 100 that includes an active cable 110 connecting a first electronic device 101a and a second electronic device 101b. Ex-1004, 14:9-11. The cable 110 has “first and second transceiver assemblies 105a, 105b,” including first and second transceivers 107a, 107b, respectively, positioned at either end of conductive lines 111. *Id.*, 14:31-34, 14:48-50.

46. To maintain signal integrity over the cable conducting lines 111, Lugthart specifically provides a transceiver structure (e.g., transceiver 107a) that

compensates for signal degradation. Ex-1004, 6:41-45 (“[t]he performance of communication systems is limited . . . by factors including intersymbol interference (ISI) and other characteristics . . . associated with the cable including loss, noise, dispersion and non-linear response”), 6:55-57 (“ISI can be reduced by . . . designing the transceivers to compensate for or reduce the effects of ISI”), 15:5-10 (“[i]ntegrating transceivers into a cable can achieve a wide variety of advantages . . . an active cable [having integrated transceiver(s)] can permit communication over longer distance . . . with a thinner cable . . . using an active cable [having integrated transceiver(s)] can decrease jitter, noise, and/or ISI relative to a configuration using a passive cable.”).

47. As shown in FIGS. 1A and 2A, the transceiver architecture, including a transceiver 10 that implements first and second transceivers 107a, 107b, is divided into two directional paths—a transmit path (“EGRESS/TRANSMIT”) and a receive path (“INGRESS/RECEIVE”)—each of which includes respective components including equalizers (EQ), finite impulse response (FIR) filters, digital signal processors (DSPs), clock and data recovery (CDR) circuits. Ex-1004, FIGS. 1A, 2A, 9:10-10:22.



Ex-1004, FIGS. 1A, 2A (annotated).

48. Lugthart's "EGRESS/TRANSMIT" and "INGRESS/RECEIVE" (e.g., in FIGS. 1A and 2A) indicate the direction of signal flow relative to the host device 101a and the cable conducting lines 111. Ex-1005, FIGS. 1A, 2A. For example, a signal travels from a host device (e.g., 101a) through a transceiver module, and to

the cable lines 111 on the EGRESS side, and a signal travels from the cable lines 111 through a transceiver module, and to a host device on the INGRESS side. *Id.*

49. In Lugthart's transmit path, the EGRESS components of the transceiver 10 apply signal shaping techniques, including "digitally re-timing, conditioning, and multiplexing the differential signals," and "transmit[] the multiplexed signal as a multi-level modulated signal (e.g., PAM-4)" over the cable conducting lines 111. Ex-1004, 15:64-16:3. Specifically, pre-equalization is applied to compensate for high-frequency loss and anticipated losses in the cable conducting lines 111 before the signal traverses the cable conducting lines 111. *Id.* , 6:41-45, 6:55-57, 15:5-10, 23:59-24:2.

50. In Lugthart's receive path, the INGRESS components receive signals from the cable conducting lines 111. These signals have undergone signal degradation in the cable conducting lines 111, which may be recovered, demultiplexed, and converted into a desired format before delivery to the host device 101a. *Id.*, 9:10-12, 9:65-10:2. Therefore, the receive path applies post-equalization and processing to correct distortion and convert the signal into the desired format after signal degradation has occurred during transmission over cable lines (conducting lines 111). *Id.*

51. Petitioner also relies on an example of a communication system 200, FIG. 4A, including "a first transceiver 10a connected to another similar transceiver

10b by a cable 205.”¹ Ex-1004, 19:35-36. The transceivers 10a, 10b each have a host side for facing an electronic device 101a, 101b and a line side for facing the cable 205. *Id.*, 19:34-40.

52. As shown in FIG. 4B, the first transceiver 10a of communication system 200 “includes, along the egress path from the electronic device side to the cable side, a pair of equalizers 11a-11b, a pair of CDR circuits 12a, 12b, a DSP 13, and a DAC 14.” Ex. 1004, 21:33-38. The DSP 13 includes “a first feed-forward equalizer and/or decision feedback equalizer (FFE/DFE) block 15a, a second FFE/DFE block 15b, a PCS block 16, and a finite impulse response (FIR) filter 17.” *Id.*, 23:13-18. The FIR filter 17 include one or more finite impulse response (FIR) filters that “can be used to perform emphasis on the signal to compensate for channel losses.” *Id.*, 23:59-64.

53. Again, Lugthart focuses on compensating for loss in the cable conducting lines 111. Ex-1004, 6:41-45, 6:55-57, 15:5-10; 9:10-12, 9:65-10:2, 23:59-24:2. According to Lugthart, implementations of the transceivers include “adaptive and configurable signal conditioning features such as an integrated

¹ While I do not concede that the descriptions of FIGS. 4A and 4B are compatible with FIG. 2A, I have used those descriptions to the extent that Petitioner has used them in support of its rationale.

continuous time linear equalizer (CTLE), output pre-emphasis, self-adaptive digital equalization, by-passable forward error correction (FEC).” *Id.*, 29:21-28.

Therefore, Lugthart explains that for purposes of establishing a high-speed communication link between two electronic devices, the operating parameters for the equalizers are adjusted during one or more training phases after a start-up phase. *Id.*, 47:53-64, 48:64-49:37.

54. However, nowhere does Lugthart teach or suggest to a POSITA that the coefficient values for the FIR filters 17 that provide pre-equalization of the signal transmitted to the cable on the egress path are stored in nonvolatile memories.

B. Gorecki

55. Gorecki is directed to “a technique of and system for enhancing the performance of high-speed digital communications through a communications channel, for example a backplane.” Ex-1005, Abstract, 6:3-6. Gorecki seeks to address the problem of signal reflections and signal dispersion—also known as intersymbol interference—caused by bandwidth limitations of the communications channel in backplane environments. *Id.*, Abstract, 1:33-58, 6:3-22.

56. Gorecki’s solution is transmitter-side equalization circuitry implemented as an analog FIR filter with leading and trailing taps that temporally overlap with the data signal to thereby introduce corrective

intersymbol interference that can compensate for pre-cursor and post-cursor intersymbol interference caused by the communications channel. Ex-1005, Abstract, 6:3-37, 6:38-44, 9:3-15, 10:1-11, 18:35-61 Fig. 5A-5B. Every embodiment in Gorecki is directly applicable to backplane communications. *Id.*, 3:8-45, 4:16-27, 4:53-64, 6:3-6, 8:1-8, Figs. 3-4, Claims 1, 11, 22. Gorecki does not describe or suggest any application to active cables. In Gorecki's architecture, the communications channel is a passive medium (a backplane trace) over which the transmitter sends equalized signals to a remote receiver.

C. Cornelius

57. Cornelius is directed to “[c]ircuits, methods, and apparatus that allow signals that are compliant with multiple standards to share a common connector on an electronic device.” EX-1006, Abstract. The reference addresses the problem of accommodating a legacy standard (DisplayPort) and newer standards (such as “HSIO” or “T29”) on the same physical connector. Ex-1006, 3:54-4:9, 5:33-39. Cornelius discloses active cables in Figures 5 and 6 that include “two active plugs...one on each end of cable,” each with “dual clock and data recovery circuits for retiming data” and a cable microcontroller to configure those circuits. *Id.*, 6:6-24, Figs. 5-6.

58. The core teaching of Cornelius is a connector pinout arrangement and associated circuitry that enables signals from two different standards to share

common connector pins without interfering with one another. Ex-1006 at 2:20-26. Cornelius describes how pins for a newer high-speed standard may be arranged to reduce crosstalk and interference among themselves, and how additional circuitry—such as resistors, PiN diodes, multiplexers, coupling capacitors, and inductors—may be used to isolate the signal paths of the two standards from each other. *Id.*

D. Samaan

59. Samaan is a technical paper titled “High-speed Serial Bus Repeater Primer,” authored by Samie B. Samaan, Dan Froelich, and Samuel Johnson of Intel Corporation. Ex-1007, Title, Cover. The paper provides an overview of SerDes repeaters—specifically re-drivers and re-timers—describing their micro-architecture, properties, applications, and limitations in the context of high-speed serial bus standards such as PCIe 3.0. Ex-1007, ¶¶1-8.

60. Samaan is fundamentally a reference on adaptive equalization—not preset equalization stored in nonvolatile memory. The central theme of Samaan is that equalization coefficients are determined dynamically through link training and adaptation protocols, where transmitters and receivers negotiate optimal TxEQ settings in real time. For PCIe 3.0, Samaan describes a four-phase TxEQ adaptation protocol in which both link partners exchange information about their supported equalization ranges (Phase 0), establish initial communication (Phase 1), and then

iteratively request coefficient changes from each other until each receiver finds an optimal setting (Phases 2 and 3). Ex-1007, ¶¶83-87. The “intent of adaptation is to allow both agents to adjust the link partner’s TxEQ to an optimal value for their receiver, and for the specific channel and operating conditions at hand.” Ex-1007, ¶78.

VIII. PETITIONER FAILS TO ESTABLISH THAT ANY CHALLENGED CLAIM IS UNPATENTABLE

A. Ground 1

61. Ground 1 challenges claims 1, 6, 8, 13, and 15 based on Lugthart alone. All five claims share a common limitation that is not disclosed or rendered obvious by Lugthart: the requirement that the DRR devices provide pre-equalization “using transmit filter coefficient values stored in nonvolatile memories.” This limitation appears as [1f] in claim 1, [8f] in claim 8, and [15c] in claim 15. Claims 6 and 13 depend from claims 4 and 11, respectively, which in turn ultimately depend from claims 1 and 8 and therefore inherit limitation [1f]/[8f]. Ex. 1001, Claims 1, 4, 6, 8, 11, 13, 15.

Lugthart’s Boilerplate Computer-Readable Media Language Does Not Teach Storing FIR Coefficients in Nonvolatile Memory

62. The Chen Declaration’s argument for limitation [1f] rests on a chain of inferences beginning from Lugthart’s generic disclosure about computer-readable media. Specifically, Dr. Chen relies on Lugthart’s statement that “[t]he

steps of a method or algorithm disclosed herein may be implemented in a processor-executable software module which may reside on a computer-readable medium” including “ROM, EEPROM, ... or any other medium that may be used to store desired program code in the form of instructions or data structures.” Ex-1004, 57:40-67; Ex-1003, ¶79. Dr. Chen then argues that because Lugthart’s FIR filter is implemented on a DSP, Lugthart “teaches storing its FIR software program in nonvolatile memory, including FIR ‘instructions’ and ‘data structures,’ which would include the FIR coefficients.” Ex-1003, ¶79.

63. This argument is fundamentally flawed. The passage Dr. Chen relies on is standard patent drafting boilerplate commonly found in patents describing a system with software components. It addresses the general question of where the software implementing the patent’s methods *could* reside. It does not specifically teach, suggest, or even mention storing FIR filter coefficients—which are operational parameters, not program instructions—in nonvolatile memory. A person of ordinary skill in the art (“POSITA”) would understand that there is a critical distinction between (a) the program code that *implements* an FIR filter algorithm and (b) the coefficient *values* that the FIR filter uses during operation. Program code is static and does not change during operation; coefficient values, by contrast, are dynamic operational parameters that are determined based on channel conditions and may change frequently.

64. Lugthart’s boilerplate language about “instructions or data structures” stored in computer-readable media addresses the former category—the static program code—not the latter. Ex-1004, 57:55. The mere fact that a DSP runs software that is stored somewhere does not teach that the operational parameters used by that software are stored in the same nonvolatile medium. A POSITA would have understood that in modern DSP-based systems, it is common for program code to reside in nonvolatile memory (e.g., flash ROM) while *operational parameters* like filter coefficients that are determined at runtime reside in volatile memory (e.g., SRAM or registers). Dr. Chen’s conflation of these two categories is a logical error that should not be accepted.

Lugthart’s Adaptive Architecture Does Not Suggest Pre-Stored Coefficient Values

65. Far from teaching pre-stored FIR coefficients in nonvolatile memory, Lugthart’s specification describes an adaptive equalization system for the transmit signal path (Ex-1004, 6:41-45, 6:55-57, 15:5-10, 23:59-24:2) in which, as explained below, coefficients are determined dynamically at runtime through channel negotiation. This is a critical aspect of Lugthart’s architecture that Dr. Chen fails to address in his Ground 1 analysis.

66. Lugthart describes a multi-phase channel negotiation process with three distinct stages. In the start-up phase, the transceivers establish a low-speed communication channel and perform “[a] basic channel test ... to determine the

channel parameters such as, for example, loss, noise, dispersion, non-linearity, etc.” Ex-1004, 48:20-23. In the full speed training phase, “the parameters of the components in the transceivers connected to the first and second electronic devices are adjusted such that NRZ modulated signals at the full baud rate can be transmitted and received at an error rate that is below or equal to a threshold error value.” Ex-1004, 49:1-10. Lugthart specifically identifies the parameters adjusted in this phase as including “the shape of the transmitted pulse” and “operating parameters for the equalizers.” Ex-1004, 49:5-12. In the full functional training phase, the parameters are “further adjusted such that signals modulated using a multi-level modulation format at the full baud rate can be transmitted and received.” Ex-1004, 49:20-34.

67. The reference to “operating parameters for the equalizers” in the training phase directly encompasses the FIR filter tap coefficients used for pre-equalization on the transmit signal path—these are the very parameters that control the shape and degree of pre-emphasis applied by the FIR filter. Ex. 1004, 49:12. A POSITA reading Lugthart would understand that these coefficients are determined through the adaptive channel negotiation process, not retrieved from pre-stored values in nonvolatile memory.

68. Lugthart further describes its transceivers as having “adaptive and configurable signal conditioning features such as an integrated continuous time

linear equalizer (CTLE), output pre-emphasis, self-adaptive digital equalization.”

Ex-1004, 29:23-28. The term “self-adaptive” is significant: it indicates that the equalization system—including the pre-emphasis performed by the FIR filter—determines its own parameters automatically, without relying on externally supplied or pre-stored values.

69. Additionally, Lugthart teaches that the transceivers “adaptively acquire one or more parameters associated with the communication channel during a second stage of the channel negotiation subsequent to the first stage.” Ex-1004, 28:55-58. This “adaptive acquisition” of channel parameters on the transmit signal path occurs in real time during link establishment, confirming that Lugthart’s system is designed to determine its equalizer parameters dynamically rather than from stored values.

70. Lugthart also describes “channel acquisition via filter adaptation” as part of the link negotiation capabilities. Ex-1004, 47:42-44. This is a direct reference to the process by which FIR filter parameters are acquired through runtime adaptation, not by retrieval from nonvolatile memory.

71. It is significant that nowhere in Lugthart’s detailed descriptions of FIR filter operation, DSP processing, channel negotiation, transceiver architecture, or equalizer configuration does the patent describe retrieving FIR coefficients from nonvolatile memory or storing them there. Lugthart’s specification describes the

FIR filter's structure and function in some detail, including the number of taps and specific coefficient values for certain implementations (e.g., "a five tap FIR filter with tap coefficients S5.3, S7.3, S8.3, S7.3, S5.3"). Ex-1004, 22:13-17, 23:59-24:2. But the source of these coefficients—how they are determined and where they come from—is described exclusively in the context of adaptive processes, not nonvolatile storage.

72. The absence of any operational description of nonvolatile memory based coefficient management is telling. Lugthart is a highly detailed patent with 57 columns of specification text and 24 sheets of drawings, covering numerous aspects of transceiver design including CDR circuits, skew correction, modulation formats, and channel negotiation. If the inventors had contemplated storing FIR coefficients in nonvolatile memory as an important feature, one would expect some discussion of this in the context of their detailed equalizer descriptions. The silence on this point, combined with the affirmative teaching of adaptive coefficient determination, confirms that Lugthart does not teach this limitation.

Petitioner's Alternative "Motivation" Argument Is Improper for a Single-Reference Ground

73. Petitioner provides an alternative argument: If Patent Owner "argues that FIR coefficients are somehow not part of the instructions/data for FIR

software, a POSITA would have been motivated and found it obvious to store the FIR coefficients in nonvolatile memory.” Pet., 37. I disagree.

74. In particular, Dr. Chen argues that “POSITA would have recognized the need for these coefficient values to be stored so the cable operates as described by Lugthart,” and that “a POSITA would have found it obvious, based on Lugthart’s teachings, to use nonvolatile memory for storing these coefficients.” Ex-1003, ¶81. This is an impermissible hindsight reconstruction. The claimed invention—an active cable with pre-equalization coefficients stored in nonvolatile memory—defines a specific design choice. The question under Ground 1 is not whether a POSITA *could have* chosen to store coefficients in nonvolatile memory, but whether Lugthart teaches or suggests doing so. It does not.

75. Dr. Chen attempts to frame nonvolatile memory storage as “one of two possible solutions” (volatile vs. nonvolatile). Ex-1003, ¶87. But this framing ignores the third option that Lugthart actually teaches: adaptive determination of coefficients at runtime (Ex-1004, 29:21-28, 47:53-64, 48:20-23, 48:64-49:37), where the coefficients reside in the DSP’s operational registers and are never separately “stored” in a persistent memory at all. In Lugthart’s system, coefficients are computed during the channel negotiation process and loaded directly into the FIR filter’s processing elements. Ex. 1004, 29:21-28, 47:53-64, 48:20-23. There is no teaching or suggestion of a separate storage step in nonvolatile memory.

76. Dr. Chen asserts that storing the coefficients in nonvolatile memory was the “simplest, fastest, and most straightforward implementation of Lugthart’s teachings,” and that “[m]anual re-entry of the coefficients with each reconnection would be impractical.” Ex-1003, ¶¶80-81. But Lugthart’s own specification provides the answer to how coefficients are configured at each connection: through automated and adaptive operation, not through manual re-entry or retrieval from nonvolatile memory. Ex-1004, 47:53-64, 48:20-23, 48:64-49:37. Dr. Chen’s framing of the problem as a choice between “manual re-entry” and “nonvolatile storage” creates a false dichotomy that ignores Lugthart’s actual teaching of adaptive determination.

77. Dr. Chen further argues that without nonvolatile storage, “the coefficient value would be lost whenever the cable is disconnected, and the FIR filter would not function as taught.” Ex-1003, ¶81. But this argument proves too much. In Lugthart’s adaptive system, the coefficients *are* lost when the cable is disconnected—and that is by design. A POSITA would recognize that each time the cable is reconnected, the transceivers execute their channel negotiation sequence and determine fresh coefficients appropriate for the new connection. This is not a deficiency to be “fixed” by adding nonvolatile storage; it is a core feature of Lugthart’s adaptive architecture.

B. Ground 2

78. Ground 2 challenges all twenty claims of the ‘233 patent under 35 U.S.C. § 103 based on the combination of Lugthart (Ex-1004) and Gorecki (Ex-1005). The challenged claims include three independent claims (claims 1, 8, and 15) and seventeen dependent claims (claims 2–7, 9–14, and 16–20). Petitioner relies on Lugthart as the primary reference for the active cable architecture and on Gorecki to supply the teachings of storing “pre-programmed” or “pre-set” tap coefficient values for a transmitter FIR filter in nonvolatile memories such as “ROM, PROM, EPROM, [or] EEPROM.” Petition at 38 (citing to Ex-1005, 7:18-26).

1. The Combination Of Lugthart And Gorecki Does Not Render The Independent Claims Obvious

79. Lugthart And Gorecki, considered individually or in combination, do not render obvious the requirement of limitation [1f] in claim 1, [8f] in claim 8, and [15c] that the DRR devices provide pre-equalization “using transmit filter coefficient values stored in nonvolatile memories.” Ex. 1001, Claims 1, 8, 15.

Petitioner Fails To Provide Sufficient Motivation Rationale In Incorporating Gorecki’s “Pre-Programmed”/“Pre-set” Tap Coefficient Values

80. A threshold problem with Ground 2 is that Gorecki is directed to an entirely different type of communication system than the ‘233 patent or Lugthart. Gorecki’s disclosure is expressly and pervasively directed to equalization for “a

communications channel, for example a backplane.” Ex-1005, 3:8-16. Every independent claim in Gorecki recites “a communications channel, wherein the communications channel includes a backplane.” Ex-1005, Claims 1, 11, 22. Gorecki does not describe, contemplate, or address the challenges unique to active cable environments.

81. A POSITA would understand that backplane communications and active cable communications present fundamentally different engineering challenges and design constraints. A backplane is a fixed, semi-permanent installation within an equipment enclosure—such as a server chassis or a switch—where the channel characteristics (trace lengths, impedance, loss profile) are determined at the time of manufacture and remain substantially constant over the life of the equipment. In other words, Gorecki teaches that its pre-set coefficients are designed for a backplane environment where the channel is fixed. Ex. 1005, Claim 29. Thus, Gorecki explains that these presets represent “compensation that is ideally the inverse of the effects caused by the communications channel.” *Id.*, 9:3-15. In such an environment, it makes engineering sense to characterize the channel once, determine optimal equalization coefficients, and store them as “presets” for repeated use. *Id.*, 7:18-33.

82. By contrast, Lugthart’s active cable is a pluggable, portable device designed to be repeatedly connected to and disconnected from different host

devices. Ex-1004, 14:14-15, 15:42-52. Each time the cable is connected, it interfaces with potentially different hosts, switches, or electronic devices, each presenting different signal characteristics, trace lengths on the host PCB, and connector properties. *Id.*, 15:42-52. The channel that the equalizer must compensate for changes with each connection. *Id.* This is precisely why Lugthart teaches a comprehensive adaptive equalization system with multi-phase channel negotiation—an approach fundamentally at odds with Gorecki’s pre-stored coefficient model.

83. Dr. Chen’s assertion that Gorecki is “analogous art” because it is “in the same field of endeavor (high-speed communications)” (Ex-1003, ¶45) oversimplifies the inquiry. While both references involve high-speed communications in a general sense, the specific sub-domains are materially different. A POSITA developing an active cable would not look to backplane equalization techniques as a guide for coefficient management, because the core design assumptions—fixed channel versus variable channel, permanent installation versus pluggable—diverge so fundamentally.

84. In addition, the combination proposed by Petitioner requires grafting Gorecki’s pre-stored coefficient approach onto Lugthart’s adaptive equalization architecture. But these two approaches reflect opposite design philosophies, and a POSITA would recognize that combining them would be technically inappropriate.

85. Lugthart describes a multi-phase channel negotiation process in which transceiver parameters—including “operating parameters for the equalizers”—are adaptively determined at runtime. Ex-1004, 49:5-12. Lugthart’s transceivers feature “self-adaptive digital equalization” (Ex-1004, 29:24-28) and are configured to “adaptively acquire one or more parameters associated with the communication channel during a second stage of the channel negotiation subsequent to the first stage.” Ex-1004, 4:54-58. Lugthart further describes “channel acquisition via filter adaptation” as a core capability of its link negotiation. Ex-1004, 47:42-45.

86. These descriptions make clear that in Lugthart’s system, the FIR filter coefficients are not pre-stored values retrieved from memory; they are dynamically computed values derived through real-time interaction between the two transceivers at opposite ends of the cable. The negotiation process proceeds through three phases—a start-up phase, a full speed training phase, and a full functional training phase—completed within “a few milliseconds (e.g., within 5-6 milliseconds).” Ex-1004, 47:60-64. At each phase, equalizer parameters are progressively refined based on actual channel conditions, *Id.*, 47:65 – 49:37.

87. Adding Gorecki’s pre-stored coefficients to this system would create an internal conflict. Gorecki’s approach assumes that the coefficients are determined in advance and loaded from memory at power-up. Ex-1004, 7:18-33. But Lugthart’s system already has a mechanism for determining coefficients after

power-up—through adaptive channel negotiation. A POSITA would recognize that pre-stored coefficients would be immediately overwritten or rendered superfluous by Lugthart’s adaptive training process, making the combination functionally pointless.

Petitioner’s Motivation to Combine Is Factually Flawed

88. First, Dr. Chen argues that “Lugthart teaches coefficient values, and as with all data in computers, those values would naturally to be stored in memory,” and that a POSITA would have chosen nonvolatile memory “as one of two possible solutions.” Ex-1003, ¶87. This framing is misleading because it presents the design choice as a simple binary between volatile and nonvolatile memory, ignoring the third option that Lugthart actually teaches: adaptive runtime determination of coefficients that reside in the DSP’s operational registers and are never separately “stored” in persistent memory at all. In Lugthart’s architecture, coefficients are computed during channel negotiation and loaded directly into the FIR filter’s processing elements. Ex. 1004, 47:24-49:37. There is no teaching or suggestion of a separate storage step in nonvolatile memory.

89. Second, Dr. Chen argues that a POSITA would have been motivated to store coefficients in nonvolatile memory “the coefficients are preserved when the cable is disconnected—a common scenario for Ethernet cables—and available for subsequent use in the manner taught by Lugthart.” Ex-1003, ¶88. But this

argument assumes that preserving coefficients across disconnections is desirable, when Lugthart's architecture teaches the opposite: the coefficients should be re-determined at each connection because the channel characteristics may have changed. The loss of coefficients upon disconnection is not a problem in Lugthart's system—it is a feature that ensures the equalizer is always optimally configured for the current connection.

90. Third, Dr. Chen argues that “even if link training is used to fine-tune coefficients during operation (Ex-1005, 7:50-61), POSITA would nonetheless have been motivated to start with a baseline set of coefficient values to use as a default when the cable is first connected because it provides a level of equalization from the start and helps adjust coefficients to their final values in a shorter time during operation.” Ex-1003, ¶88. This “baseline coefficients” argument is speculative and unsupported by Lugthart. Lugthart's startup sequence begins with low-speed communication (e.g., Manchester coding at about 100 Mbit/s) that does not require pre-equalization. Ex-1004, 47:24-48:30. The system then progressively increases speed and adjusts parameters at each stage. The training sequence is designed to converge rapidly—within 5-6 milliseconds—without any need for baseline coefficient values from nonvolatile memory. Ex-1004, 47:60-64. Dr. Chen provides no evidence that Lugthart's training process would benefit from or require pre-stored baseline coefficients.

91. Fourth, Dr. Chen argues that both references are “directed to high-speed communications over a cable” and “recognize signal loss over the cable, and both address it with pre-emphasis, using an FIR filter, in the transmitter.” Ex-1003, ¶90. But this level of generality would render virtually any two references in the field of high-speed communications combinable. The relevant question is whether a POSITA would have been motivated to combine the specific teachings at issue—Gorecki’s pre-stored coefficients with Lugthart’s adaptive equalization—and the answer is no, for the reasons explained above.

The Combination Would Change the Principle of Operation of Lugthart

92. Lugthart’s principle of operation for equalization is adaptive, runtime coefficient determination through multi-phase channel negotiation. The proposed combination of Lugthart and Gorecki would replace this with a fundamentally different approach: pre-stored coefficient retrieval from nonvolatile memory. This changes the core mechanism by which Lugthart’s equalizers are configured, altering the principle of operation of the reference.

93. Dr. Chen asserts that “[t]he combination of Lugthart and Gorecki would not have changed the principle of operation of either reference” because “Gorecki’s teachings would simply have been used to store values in nonvolatile memory, which is already implied or suggested by Lugthart.” Ex-1003, ¶91. This assertion is conclusory and unsupported. Lugthart does not “imply or suggest”

nonvolatile storage of FIR coefficients, as discussed in detail above. And adding a pre-stored coefficient system to Lugthart's self-adaptive architecture is not a minor addition—it introduces an entirely new coefficient management pathway that conflicts with Lugthart's existing adaptive approach.

No Reasonable Expectation of Success

94. Dr. Chen asserts a reasonable expectation of success based primarily on the general proposition that “computers have, for decades, stored values they require in nonvolatile memory such as ROM, PROM, EPROM, and EEPROM.” Ex-1003, ¶92. This abstract observation does not address the specific engineering challenges of integrating pre-stored coefficients into Lugthart's adaptive equalization system.

2. The Combination Of Lugthart And Gorecki Does Not Render The Dependent Claims Obvious

Claims 2, 9, and 16—Controller Configuring DRR Device at Power-On

95. Claims 2, 9, and 16 each require a controller that configures the DRR device “in response to a power-on event,” including “retrieving the transmit filter coefficient values from the nonvolatile memories as part of said configuring.” Ex-1001, Claims 2, 9, 16. These claims present additional deficiencies beyond those affecting the independent claims.

96. Gorecki teaches a “controller” that distributes coefficients “to the transmitter or set of transmitters” in the context of a backplane communication system. Ex-1005, 7:14-17. This controller architecture makes sense in Gorecki’s environment, where multiple transmitter/receiver pairs operate simultaneously across a shared backplane channel and a centralized controller simplifies coordination. Ex-1005, 8:1-6, Fig. 3. But Lugthart’s active cable has self-contained transceivers at each end, each with its own pair of DSPs that independently handle transmit and receive functions. Ex-1004, Figs. 1A, 4A-4B.

97. Transposing Gorecki’s controller into Lugthart’s architecture requires adding entirely new hardware—a controller at each end of the cable—that Lugthart never contemplates. Lugthart’s transceiver architecture is described as potentially a “monolithic device” that includes “integrated digital signal processors, ADCs and DACs.” Ex-1004, 29:14-16. The addition of a separate controller to this already-integrated architecture is not the trivial modification Petitioner suggests.

98. Moreover, the claims require that the controller configure the DRR device specifically “in response to a power-on event.” Ex-1001, Claims 2, 9, 16. But Lugthart’s startup sequence involves the transceivers performing their own adaptive channel negotiation, not a controller retrieving pre-stored coefficients from memory. Ex-1004, 47:24-51:30. Dr. Chen provides no explanation of how Gorecki’s controller would interact with Lugthart’s existing adaptive startup

process, or why a POSITA would add a controller-based coefficient retrieval step to a system that already has a fully defined, self-sufficient startup sequence.

99. Claim 16 presents still further difficulties. It requires controllers at both ends of the cable (“first and second controller devices”) connected to the respective end connector plugs, each “operating to configure the first and second DRR devices in response to a power-on event.” Ex-1001, Claim 16. Gorecki does not teach dual controllers in a cable—its single controller distributes coefficients within one transceiver or set of transmitters on one side of a backplane channel. Ex-1005, 7:16-17. The Petition’s extension of Gorecki’s single-controller teaching to dual controllers at opposite ends of a cable requires an inferential leap that is not supported by the prior art.

Claims 3, 10, and 17—Programmed to Use Coefficients at Each Power-On

100. Claims 3, 10, and 17 require that “the first and second DRR devices are programmed to use the transmit coefficient values each time power is supplied to the first and second end connector plugs.” Ex-1001, Claims 3, 10, 17.

101. For these claims, Dr. Chen relies on Gorecki’s teaching that “the transmitter may access the memory to retrieve” coefficient values “during startup/power-up.” Ex-1005, 7:18-33. But this Gorecki teaching is in the context of a backplane system where preset coefficients remain valid across power cycles because the channel does not change. In Lugthart’s active cable environment, there

is no teaching or reason why a cable would be “programmed” to load the same pre-stored coefficients “each time” power is supplied, particularly when the cable may be connected to a different host device at each power-on event. The combination does not teach the “each time” requirement in the context of an active cable because the motivation for repeatedly loading the same pre-stored values—a fixed channel—does not exist in Lugthart’s environment.

Claims 4, 11, and 18—Coefficients Determined and Stored After Cable Assembly

102. Claims 4, 11, and 18 require that “the transmit filter coefficient values are determined and stored in the nonvolatile memories after assembly of the cable.” Ex-1001, Claims 4, 11, 18.

103. Dr. Chen argues that coefficients values would “obviously have been determined after assembly of the active cable; otherwise, the properties of the cable could not be measured because there would not be a cable attached to the transceivers.” Ex-1003, ¶103. While this reasoning has surface appeal, it introduces yet another step beyond what Gorecki teaches. Gorecki’s disclosure of pre-programmed coefficients does not specifically address when the coefficients are determined relative to the assembly of the device in which they are used. Gorecki addresses a backplane environment where the coefficients compensate for the backplane channel—not a cable that is assembled and then characterized.

104. Petitioner’s argument for this claim relies on a chain of inferences: (1) Lugthart’s FIR filter compensates for channel losses; (2) Gorecki teaches pre-setting coefficients as the “inverse of the effects caused by the communication channel”; (3) therefore, the coefficients must be determined by characterizing the cable after assembly. Petition at 44-45; Ex-1003, ¶¶103-104; Ex-1005, 9:8. But this chain depends on the assumption that the coefficients would be determined once for the cable’s internal conductors, characterized during manufacturing, and then stored permanently. This assumption conflicts with Lugthart’s teaching that the equalizer parameters are determined adaptively at each connection because the relevant “channel” includes not just the cable’s internal conductors but also the host-side traces and connectors, which vary with each connection.

Claims 5, 12, and 19—Receiver-Based Equalization with Stored Coefficients

105. Claims 5, 12, and 19 require that “the first and second DRR devices employ receiver-based equalization of the electrical transit signals using coefficient values stored in the nonvolatile memories.” Ex-1001, Claims 5, 12, 19.

106. For these claims, Dr. Chen attempts to extend the Gorecki’s disclosure of pre-programmed or pre-set tap coefficients to the receive-side equalizer, arguing that it would have been “obvious to store the equalization coefficients values for the receiver in nonvolatile memories as well.” Ex-1003, ¶107; Petition at 46-47. This extension compounds the deficiencies already identified. Neither Lugthart nor

Gorecki teaches storing receiver-side equalization coefficients in nonvolatile memory. Gorecki's pre-stored coefficient teachings are directed to transmitter-side equalization circuitry. Ex-1005, 3:8-16, Abstract ("a transmitter having equalization circuitry"). Extending Gorecki's transmitter-side pre-programmed or pre-set tap coefficients to the receiver side requires an additional inferential step that is not supported by either reference.

Claims 6 and 13—Twin-Axial Conductors in Differential Form

107. Claims 6 and 13 require twin-axial conductors carrying electrical transit signals in differential form. Ex-1001, Claims 6, 13. While Lugthart does teach twinaxial cables with differential signaling (Ex-1004, 19:2-6), these claims depend from claims 4 and 11, respectively, which in turn depend from claims requiring the nonvolatile memory storage limitation. Because the combination fails to establish obviousness of the parent claims for the reasons explained above, claims 6 and 13 are likewise not rendered obvious.

Claims 7, 14, and 20—No Pre-Equalization of Host-Side Data Streams

108. Claims 7, 14, and 20 require that "the first and second DRR devices do not perform pre-equalization of the multi-lane data streams provided to the first and second host interface ports." Ex-1001, Claims 7, 14, 20.

109. For these claims, Dr. Chen contends that "Gorecki teaches that ... the 'leading and/or trailing taps may be 'turned off' or disabled[.]'" Ex-1003, ¶¶110-

111. This mischaracterizes the disclosure of Gorecki. Rather, Gorecki describes that “a first path of the leading and/or trailing taps may be ‘turned off’ or disabled and another leading and/or trailing tap path may be ‘turned on’ or enabled quite rapidly.” Ex-1005, 18:15-18.

110. Chen further contends that “[t]urning off the leading and trailing taps [which] leaves only the main cursor tap and therefore is mathematically equivalent to performing no equalization.” Ex-1003, ¶111. As explained above, this is incorrect. Gorecki does not teach turning off the leading and trailing taps so as to leave only the main cursor tap. Moreover, this argument conflates configuring an FIR filter to produce a null equalization effect with “not performing pre-equalization.” Claim 7 does not recite that the pre-equalization is set to zero or disabled; it recites that the DRR devices “do not perform pre-equalization” on the host-side data streams. Ex-1001, Claim 7. A POSITA would understand that a system with an active FIR filter whose taps are configured to produce no net equalization effect is structurally different from a system that does not perform pre-equalization at all. In the former case, the equalization circuitry is still present, powered, and processing the signal—it has merely been configured to pass the signal through unmodified. In the latter case, the data stream bypasses equalization circuitry entirely.

111. Furthermore, it would not have been obvious to apply Gorecki's teaching to Lugthart in the manner suggested by Petitioner. In particular, Dr. Chen argues that "a POSITA would have been motivated to turn off pre-emphasis" on the path between the cable and the host because "it is not needed." Ex-1003, ¶112. Dr. Chen's reasoning—that the host-side path is shorter and therefore does not need pre-equalization—is not found in Lugthart and constitutes impermissible hindsight reasoning. Dr. Chen also argues that turning off pre-emphasis would "reduce power." *Id.* ¶112. However, Dr. Chen admits that the FIR filter remains in place in Lugthart even after the proposed combination Ex-2021, 39:9-40:3, but he has not explained how power is reduced.

3. The Combination Of Lugthart And Gorecki Rests on Hindsight Reconstruction

112. Viewed as a whole, Petitioner's Ground 2 analysis constructs a narrative in which a POSITA would have taken Lugthart's adaptive active cable, added Gorecki's backplane pre-stored coefficients in nonvolatile memory, added Gorecki's controller to retrieve and distribute those coefficients, configured the system to load coefficients at each power-on, determined and stored those coefficients after cable assembly based on channel characterization, extended the nonvolatile memory storage to receiver-side coefficients, and selectively disabled pre-equalization on host-side paths. Pet. 38-49. Each of these steps requires its own

motivation, its own reasonable expectation of success, and its own justification for why a POSITA would have made the modification. The effect of these layered modifications transforms Lugthart's adaptive, self-configuring active cable into something fundamentally different—a cable with pre-stored, controller-distributed, nonvolatile memory-based coefficient management. This multi-step reconstruction bears the hallmark of impermissible hindsight reasoning, using the '233 patent's claims as a roadmap to selectively combine teachings from references that teach different approaches to different problems.

C. Ground 3

113. Ground 3 challenges claims 7, 14, and 20 based on Lugthart and Gorecki in further view of Samaan. In particular, Petitioner alleges that Samaan discloses that the first and second DRR devices “do not perform pre-equalization of the multi-lane data streams provided to the first and second host interface ports.” Pet. 49-50. Similar to the analysis provided above with respect to Gorecki, Petitioners again allege that setting leading and trailing taps (*i.e.*, Samaan coefficients C_{-1} and C_{+1}) to zero is akin to not performing pre-equalization on the multi-lane data streams provided to the host interface ports. *Id.* For similar reasons to those described above, I disagree.

114. In particular, Dr. Chen's combination conflates configuring an FIR filter to produce a null equalization effect with “not perform[ing] pre-

equalization.” Ex-1003, ¶¶114-115. Claim 7 does not recite that the pre-equalization is set to zero or disabled; it recites that the DRR devices “do not perform pre-equalization” on the host-side data streams. Ex-1001, Claim 7. A POSITA would understand that a system with an active FIR filter whose taps are configured to produce no net equalization effect is structurally different from a system that does not perform pre-equalization at all. In the former case, the equalization circuitry is still present, powered, and processing the signal—it has merely been configured to pass the signal through unmodified. In the latter case, the data stream bypasses equalization circuitry entirely.

115. Furthermore, it would not have been obvious to apply Samaan’s teaching to Gorecki or Lugthart in the manner suggested by Petitioner. In particular, Dr. Chen argues that “a POSITA would have been motivated to turn off pre-emphasis” on the path between the cable and the host because “it is not needed.” Ex-1003, ¶112. Dr. Chen’s reasoning—that the host-side path is shorter and therefore does not need pre-equalization—is not found in Samaan, Gorecki, or Lugthart and constitutes impermissible hindsight reasoning. Dr. Chen also argues that turning off pre-emphasis would “reduce power.” *Id.* However, Dr. Chen admits that the FIR filter remains in place in Lugthart even after the proposed combination (Ex-2021 at 39:9-40:3), but he has not explained how power is reduced. *Id.* ¶¶112-113.

D. Ground 4

1. The Combination of Cornelius, Samaan, and Gorecki does not teach the independent claims of the '233 Patent

116. Ground 4 challenges claims 1-20 based on Cornelius in combination with Samaan and Gorecki. All claims share a common limitation that is not disclosed or rendered obvious by the combination: the requirement that the DRR devices provide pre-equalization “using transmit filter coefficient values stored in nonvolatile memories.” Ex-1001, Claims 1, 8, 15. This limitation appears as [1f] in claim 1, [8f] in claim 8, and [15c] in claim 15. The remaining dependent claims all depend from one of claims 1, 8, or 15, and therefore inherit limitations [1f]/[8f]/[15c]. *Id.*

Neither Cornelius Nor Samaan Teaches Storing Coefficient Values in Nonvolatile Memory

117. Cornelius does not teach storing transmit filter coefficient values in nonvolatile memory. The only passage Petitioner identifies—Cornelius’s statement that calibration parameters “may be calibrated or otherwise determined by the manufacture and stored as presets for loading during operation” Ex-1006, 11:45-55—is a generic reference to calibration of various types of circuitry, including “circuits to compensate for cable skew, cross talk (particularly in a connector), channel compensation (such as equalization or cancellation of reflections), and other such circuitry.” *Id.*, 11:45-52. Cornelius never identifies the type of memory

in which these “presets” would be stored, never uses the term “nonvolatile memory,” and never specifies any particular memory technology such as EEPROM, ROM, PROM, or flash. EX-1006, 11:45-62. Furthermore, Cornelius does not link these generic calibration presets to transmit-side pre-equalization filter coefficient values specifically. The Petition’s assertion that these presets “would obviously have been stored in nonvolatile memory (otherwise they would be lost),” Pet. 85-86, is an inferential leap that impermissibly relies upon hindsight bias.

118. Samaan likewise does not teach storing transmit filter coefficient values in nonvolatile memory. For example, in the PCIe 3.0 context, Samaan explains that the host “picks its initial TxEQ setting to use...based on system knowledge of the channel lengths on the motherboard” during Phase 0 of the training protocol. Ex-1007, ¶84. Thereafter, both agents engage in Phases 2 and 3 to adaptively optimize TxEQ settings by requesting coefficient changes from each other. *Id.*, ¶86. If anything, these link training and adaptation features suggest storage in volatile memory, which is typically used for short term storage, rather than more permanent nonvolatile memory.

A POSITA Would Not Have Combined Gorecki with Cornelius or Samaan

119. A POSITA would not have been motivated to combine Gorecki's teachings with those of Cornelius and Samaan because the references are directed to fundamentally different technologies and address different problems.

120. First, Gorecki is directed to equalization of high-speed signals in backplane environments—not active cables. Gorecki's Abstract describes “a technique of and system for enhancing the performance of high-speed digital communications through a communications channel, for example a backplane.” Ex-1005, Abstract. Every embodiment in Gorecki is described in the context of backplane communications, where a transmitter is connected to a receiver over a passive communications channel such as a backplane trace. Ex-1005, 3:8-16, 6:3-9, Figs. 3-4. The claims of Gorecki expressly require that “the communications channel includes a backplane.” EX-1005, Claims 1, 11, 22. Gorecki does not describe, contemplate, or suggest any application to active cables, and there is no disclosure in Gorecki of equalization circuitry housed within a cable connector or plug.

121. Second, the operational context for Gorecki's coefficient storage differs materially from the active cable context. In Gorecki, the coefficients may be “pre-programmed or pre-set” in memory including “ROM, PROM, EPROM, EEPROM or the like,” and the transmitter may “access the memory to retrieve the necessary information during start-up/power-up, initialization or re-initialization.”

Ex-1005, 7:18-33. But this storage occurs in the context of a stationary backplane system where the transmitter is a fixed component of a host device. *Id.*, 3:8-16, 6:3-9, Figs. 3-4. In other words, the coefficients are tailored to a known, static backplane channel that does not change between power cycles. In contrast, an active cable is a removable component that may be plugged into different host devices and different ports, encountering different channel characteristics each time. A POSITA would have recognized that pre-storing fixed coefficients in nonvolatile memory on a cable—as opposed to determining them dynamically through link training—would not have been an obvious design choice, because the cable-to-host channel characteristics may change each time the cable is plugged in.

122. Third, Petitioner’s motivation to combine is conclusory and fails to account for the differences between the references. The Petition asserts that a POSITA would have applied Gorecki’s teachings because “all three references address high-speed communications, including for cables” and because storing data in nonvolatile memory was a “known technique.” Pet., 88. But the fact that references share a general field does not, without more, supply a motivation to combine specific teachings from disparate technological contexts. Here, there is no articulated reason why a POSITA working on the HSIO/Thunderbolt active cable of Cornelius, with access to Samaan’s retimer primer for PCIe applications, would

have looked to a backplane devices for guidance on how to store filter coefficients in nonvolatile memory within an active cable connector.

123. For these reasons, Ground 4 does not establish that limitations [1f], [8f], or [15c] would have been obvious.

2. The Combination of Cornelius, Samaan, and Gorecki does not teach the dependent claims of the '233 Patent

Claims 7, 14, and 20—No Pre-Equalization of Host-Side Data Streams

124. The Petition does not allege that Cornelius teaches this limitation. As explained above, neither Gorecki nor Samaan disclose this limitation.

IX. MATERIALS CONSIDERED

125. My analysis and conclusions set forth in this declaration are based on my educational background and experiences in the field (*see* Section II). Based on my knowledge and experience, I believe that I am considered to be an expert in the field. Also, based on my knowledge and experience, I understand and know of the capabilities of persons of ordinary skill in the field around the Critical Date.

126. My analysis and conclusions set forth in this declaration are based on the perspective of a POSITA.

X. CONCLUSION

127. For all the reasons I have noted in the foregoing paragraphs, I am of the opinion that Petitioner has failed to show that any of the challenged claims are unpatentable.

128. I currently hold the opinions set expressed in this declaration. But my analysis may continue, and I may acquire additional information and/or attain supplemental insights that may result in added observations.

I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable under Section 1001 of Title 18 of the United States Code.

Date: May 1, 2026

By: 
Tim A. Williams

EXHIBIT A

Tim Arthur Williams, Ph.D.
Curriculum Vitae

Dr. Williams has 45 years of professional experience in wireless communications, networking and telecom technology. He is an entrepreneur who has participated in the organization and operation of start up companies that brought wireless LAN, software VoIP PBX, and 2-way paging technology to the marketplace. Dr. Williams holds numerous patents in wireless and signal processing technology. He is an experienced litigation support consultant with experience in patent infringement matters. Dr. Williams is also a registered Patent Agent.

- Wireless LAN
- Cellular and PCS Standards
- Cellular Telephone Architecture
- Digital Signal Processing
- Telecommunications Technology
- VoIP Technology
- Computer Networking
- Wireless Networks & Protocols

Year	University	Degree
1991	University of Texas at Austin	MBA
1985	University of Texas at Austin	Ph.D., Dissertation: “Digital Signal Processing Techniques for Acoustic Log Data”
1982	University of Texas at Austin	MSEE, Thesis: “Cepstral Processing of Speech Signals”
1976	Michigan Technological University	BSEE

Professional Experience

From: 2008
To: 2010
Organization: Expressume, Inc / Montage Inc. – Milwaukee, WI
Title: Board Member
Summary: This company sells software for human resource recruiting. This company was sold in June 2019.

From: 2008
To: 2014
Organization: Faculte, Inc. – San Jose, CA
Title: Board Member
Summary: This company provided SaaS (Software as a Service) web video based communication products.

From: 2008
To: 2010
Organization: BitRail Networks Inc. – Miami, FL
Title: Founder, Board Member
Summary: This company sold computer networking solutions.

From: 2008
To: Present
Organization: Calumet Venture Management – Madison, WI
Title: Member
Summary: This company provides seed capital and management expertise to small companies.

From: 2006
To: 2015
Organization: BEEcube Inc. – Fremont, CA
Title: Founder, Board Member, Board Advisor
Summary: This company built high speed processing solutions. This company was sold to National Instruments, Inc. in Feb 2015.

Tim Arthur Williams, Ph.D.
Curriculum Vitae

From: 2006
To: 2015
Organization: Topaz Equity, LLC – Danville, CA
Title: Founder, Board Member
Summary: This is a private equity investment company. It owned AtomAMPD which develops, markets and sells software based network solutions.

From: 2004
To: Present
Organization: DoceoTech Inc. – Danville, CA
Title: Founder, Chairman
Summary: This was a training company that provides training for engineers in Wireless, Networking, and Telephony technologies. It is currently owned by Beach Technologies, LLC.

From: 2004
To: 2006
Organization: SiBEAM, Inc. – Sunnyvale, CA
Title: Founder, Chief Executive Officer
Summary: This is a fabless semiconductor company that develops high-speed wireless networking ICs. This company was sold to Silicon Image, Inc. in Apr 2011.

From: 2001
To: 2004
Organization: JetQue, Inc. – Danville, CA
Title: Founder, Chief Executive Officer
Summary: This company created messaging solutions for the mobile professional.

From: 1999
To: 2000
Organization: Atheros Communications, Palo Alto, CA
Title: Interim CEO, Advisory Board Member
Summary: This company builds wireless LAN ICs. Atheros became a public company in May 2004. (ATHR) This company was sold to QCOM in Jan 2011.

Tim Arthur Williams, Ph.D.
Curriculum Vitae

From: 1998
To: 2000
Organization: Picazo Communications, Inc. – San Jose, CA
Title: Chief Technology Officer, Advisory Board Member
Summary: This company built and sold software PBXs Telephony equipment using VoIP and Circuit Switched Technologies. The company was purchased by Intel.

From: 1996
To: Present
Organization: Beach Technologies, LLC – Danville, CA
Title: Chief Executive Officer
Summary: This is a consulting company that provides IP services. It owns DoceoTech LLC and Streaming Knowledge LLC, which perform the same services.

From: 1991
To: 1998
Organization: Wireless Access, Inc. – Santa Clara, CA
Title: Co-Founder, Chief Technical Officer, Vice President of Engineering, Vice President of Business Strategy
Summary: This was a startup company focusing on the Narrow Band PCS equipment market. The company developed the over the air protocols, the subscriber equipment and the ICs to deploy 2-way paging services. The company was sold to Glenarye Electronics.

From: 2014
To: 2021
Organization: Through Technology, LLC. – Chicago, IL
Title: Partner
Summary: This is a private equity investment company. It owns Through Technology Group, PTE LTD, which is registered in Singapore.

From: 1979
To: 1991
Organization: Motorola, Inc. – Austin, TX – Semiconductor Sector

Tim Arthur Williams, Ph.D.
Curriculum Vitae

Title: Sr. Engineer, Member Technical Staff, Sr. MTS
Summary: Business manager, project leader, and senior technical member of the teams which were responsible for product development of the following systems:

- ADPCM transcoder,
- ISDN U-reference point transceiver,
- CT-2 voice codec and channel modem,
- GSM voice codec and channel modem,
- TDMA voice codec and channel modem
- CDMA voice codec and channel modem, and
- Japanese Digital Cellular voice codec and channel modem.

From: 1976

To: 1979

Organization: Motorola Inc. - Chicago, IL - Communications Sector - Digital Voice Privacy Group

Title: Engineer

Summary: This group built the first commercial digitally encrypted two-way FM land mobile radio system.

Professional Certifications

- Patent Agent – U.S. Patent and Trademark Office #50,790 (Jan 2002)

Issued Patents

Patent	Date	Description
10,917,232	2021	Data Enciphering or Deciphering using a Hierarchical Assignment System
9,787,471	2017	Data Enciphering or Deciphering using a Hierarchical Assignment System
7,904,117	2011	Wireless Communication Device using Adaptive Beamforming
6,781,962	2004	Apparatus and Method for Stored Voice Message Control
6,600,481	2003	Data entry apparatus and method
6,088,457	2000	Method and apparatus for over the air programming a communication device
5,854,595	1998	Communications apparatus and method with a computer interchangeable integrated circuit card
5,557,642	1996	Direct conversion receiver for multiple protocols

<p>Tim Arthur Williams, Ph.D. Curriculum Vitae</p>
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5,428,638	1995	Method and apparatus for reducing power consumption in digital communications devices
5,345,406	1994	Bandpass sigma delta converter suitable for multiple protocols
5,101,344	1992	Data processor having split level control store
5,001,661	1991	Data processor with combined adaptive LMS and general multiplication functions
4,989,169	1991	Digital tone detector using a ratio of two demodulators of differing frequency
4,972,356	1990	Systolic IIR decimation filter
4,965,762	1990	Mixed size radix recoded multiplier
4,947,363	1990	Pipelined processor for implementing the least-mean-squares algorithm
4,876,542	1989	Multiple output oversampling A/D converter with each output containing data and noise
4,862,169	1989	Oversampled A/D converter using filtered, cascaded noise shaping modulators
4,843,585	1989	Pipelineable structure for efficient multiplication and accumulation operations
4,843,390	1989	Oversampled A/D converter having digital error correction
4,796,219	1989	Serial two's complement multiplier
4,737,925	1988	Method and apparatus for minimizing a memory table for use with nonlinear monotonic arithmetic functions
4,734,876	1988	Circuit for selecting one of a plurality of exponential values to a predetermined base to provide a maximum value
4,727,508	1988	Circuit for adding and/or subtracting numbers in logarithmic representation
4,722,067	1988	Method and apparatus for implementing modulo arithmetic calculations
4,682,302	1987	Logarithmic arithmetic logic unit
4,618,946	1986	Dual page memory system having storage elements which are selectively swapped between the pages
4,406,010	1983	Receiver for CVSD modulation with integral filtering
4,398,262	1983	Time multiplexed n-ordered digital filter

<p>Patent Applications and Continuation Applications</p>
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Appl. Num.	Pub. Date	Description
20070037528	2007	Wireless Communication Device using Adaptive Beamforming
20040252679	2004	Stored Voice message Control Extensions

Tim Arthur Williams, Ph.D.
Curriculum Vitae

Published Papers

- 6 Sept 2016 Putnam, Jonathan D. and Williams, Tim A., The Smallest Salable Patent-Practicing Unit (SSPPU): Theory and Evidence.
Available at SSRN: <https://ssrn.com/abstract=2835617>
- 19 Sept 2022 Williams, Tim A, A Study of IPlytics Standard Essential Patent Tool.
Available at SSRN: <https://ssrn.com/abstract=4223782>

Litigation Experience

See attached.

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement wireless LANs	Morgan Miller and Blair	Proxim v. 3Com	3Com.	Complete			2001	D. Del.	1:2001-cv-00155; 1:2001-cv-00755
Patent Infringement Networking ICs	Simpson Thacher & Bartlett LLP	3Com Inc. v. D-Link/ Realtek Inc.	3Com	Complete			2002	N.D. CA	03-cv-02177
Patent Infringement Wireless LANs	Weil Gotshal & Manges	Agere Systems v. Broadcom Inc.	Broadcom	Complete			2003	E.D. PA	03-cv-03138
Patent Infringement Digital Subscriber Loop (DSL)	Heller Ehrman White & McAuliffe	GlobespanVirata v. Texas Instruments	Texas Instruments; Stanford University	Complete	Y	Y	2003	D.N.J.	03-cv-02854
Patent Infringement Cellular Phones	McKool Smith	Ericsson Inc v. Samsung Inc.	Ericsson	Complete	Y		2004	ITC	337-TA-577
Patent Infringement PBX services	Howrey	Foundry Networks v. Alcatel Inc.	Foundry Networks	Complete			2004	E.D. TX	2:04-cv-00040
Patent Infringement PBX services	Howrey	Foundry Networks v. Lucent Technologies Inc.	Foundry Networks	Complete	Y		2004	E.D. TX	2:04-cv-00040
Patent Infringement Wireless ICs	Kirkland and Ellis LLP	Intel Corp. v. Wi-LAN Inc.	Intel	Complete			2004	N.D. CA	08-cv-04555
Patent Infringement VoIP Recording	Fish and Richardson	STS Networks v. Witness Systems	Witness Systems	Complete	Y	Y	2004	N.D. Ga.	04-cv-02111
Patent Infringement Telephone Systems	Sidley Austin LLP	C2 Comm. Tech Inc. v. AT&T Inc.	AT&T	Complete			2006	E.D. TX	2:06-cv-00241
Patent Infringement Networking ICs	Simpson Thacher & Bartlett LLP	Commil USA LLC v. Cisco Systems Inc.	Cisco	Complete			6-Nov-07	E.D. TX	2:07-cv-341; 2:11-cv-00417; 2:11-cv-00265
Patent Infringement PBX services	Fish and Richardson	Microsoft Inc. v. Alcatel Inc.	Microsoft	Complete			2006	ITC	337-TA-598
Patent Infringement and Trade Secret Cellular Phones	Heller Ehrman White & McAuliffe	Qualcomm Inc v. Broadcom Inc.	Qualcomm	Complete			2006	S.D. CA	06-cv-0660

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement Telephone Systems	Jones Day LLP	in re Katz Patents	Experian	Complete			2007	C.D. CA	07-ml-01816
Patent Infringement Telephone Systems	Howrey	in re Katz Patents	General Electric	Complete	Y		2007	C.D. CA	07-ml-01816
Patent Infringement Wireless Networks	Heller Ehrman LLP and Covington & Burling LLP	Intermec Tech. V. Palm Inc.	Palm	Complete	Y		2007	D. Del.	1:2007-cv-00272
Patent Infringement Cellular Phones	Cooley Godward Kronish LLP	Qualcomm Inc. v. Broadcom Inc.	Qualcomm	Complete			2007	S.D. CA	08-cv-01607; 08-cv-01829
Patent Infringement Cellular Phones	DLA Piper	Qualcomm Inc. v. Nokia Inc.	Qualcomm	Complete			2007	W.D. WI; S.D. CA; S.D. CA	3:07-cv-00187; 3:07-cv-01366; 3:05-cv-02063
Patent Infringement	Howrey LLP	Minerva Inc. v Motorola Inc. et al.	Research in Motion	Complete			2007	E.D. TX	2:2007-cv-00229
Patent Infringement	Covington & Burling; Cooley; Howrey; DLA Piper	Saxon Innovations LLC. v. Nokia Corp. et al.	Samsung; Nintento; RIM; Palm	Complete			2007	E.D. TX	6:2007-cv-00490
Patent Infringement	Baker Botts LLP	AT&T v Airbiquity	AT&T	Complete			2008	N.D. TX	08-cv-01637
Patent Infringement	Quinn Emanuel LLP	ESN v Cisco	Cisco	Complete			2008	E.D. TX	5:08-cv-00020
Patent Infringement Telephone Call Processing	Jones Day LLP	in re Katz Interactive Call Processing	Citizens Communications	Complete	Y		2008	C.D. CA	07-ml-01816
Patent Infringement VoIP	Kilpatrick Stockton LLP	Verizon Corp. v. Cox Inc.	Cox	Complete	Y	Y	2008	E.D. VA	1:08-cv-00157
Patent Infringement	Latham & Watkins LLP	Freedom Wireless Inc. v. Cricket Communications Inc et al.	Cricket Comm.	Complete	Y		2008	E.D. TX	2:06-CV-504
Patent Infringement	Irell & Manella LLP	eBay Inc. v. IDT Corp. et al.	eBay.	Complete	Y		2008	W.D. AR	4:08-cv-04015
Patent Infringement	Foley & Lardner LLP	SPH America LLC v. Kyocera Wireless Corp. et al.	Kyocera.	Complete			2008	S.D. CA	3:08-cv-02146; 3:09-cv-00299; 3:09-cv-00572
Patent Infringement Wireless Devices	Ropes & Grey LLP	Motorola Inc. v. Research in Motion Inc.	Motorola	Complete			2008	N.D. TX	3:08-cv-00284
Patent Infringement	Banner & Witcoff	Paradox Ltd. v. ADT Ltd.	Paradox	Complete	Y		2008	E.D. TX	2:06-cv-00462

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Gibson Dunn LLP	Broadcom v Emulex	Emulex	Complete			2009	C.D. CA	09-cv-01058
Patent Infringement	Keker & Van Nest LLP	Intel Corp. v. CSIRO Inc.	Intel	Complete	Y		2009	E.D. TX	06-cv-00551
Patent Infringement	Foley and Lardner LLP	SPH v Nokia	Nokia	Complete			2009	S.D. CA	3:2009-cv-02535
Patent Infringement	Fish and Richardson LLP	Tekelec v Performance Technologies Inc.	Performance Technologies; Inc.	Complete			2009	E.D. NC	09-cv-00531
Patent Infringement	McDermott Will & Emery LLP	Telecommunications Systems Inc. v Sybase 365 Inc.	Sybase	Complete			2009	E.D. VA	09-cv-00387
Patent Infringement	Kecker & Van Nest LLP	Kodak v HTC	HTC	Complete			2010	ITC	337-TA-831
Patent Infringement	Howrey LLP	WiAV v Motorola	Motorola	Complete	Y		2010	E.D. VA	3:09-cv-00447
Patent Infringement	Quinn Emanuel LLP	WiAV v Sony	Sony	Complete	Y		2010	E.D. VA	3:09-cv-00447
Patent Infringement	Covington LLP	Fujitsu v Belkin et al.	Fujitsu	Complete	Y	Y	2011	N.D. CA	10-cv-03972-LHK
Patent Infringement	Finnegan Henderson LLP Keker & Van Nest LLP	HTC v Apple Inc.	HTC	Complete	Y	Y	2011	ITC	337-TA-721
Patent Infringement	Hogan Lovells LLP	MOSAID v Cisco Inc.	MOSAID	Complete	Y		2011	ITC	337-TA-778
Patent Infringement	Quinn Emanuel LLP	Motorola v Apple Inc.	Motorola	Complete	Y		2011	S.D. FL; D. Del.	1:2010-cv-23580 1:2010-cv-00867
Patent Infringement	Finnegan Henderson LLP	HTC v Apple Inc.	HTC	Complete	Y		2012	ITC	337-TA-808
Patent Infringement	Proskauer LLP	MMI v Apple Inc.	MMI	Complete	Y		2012	D. Del.	1:10-cv-00258
Patent Infringement	Ropes and Grey LLP	Motorola v Microsoft Inc.	Motorola	Complete	Y	Y	2012	W.D. WA.	10-cv-01823
Patent Infringement	Quinn Emanuel LLP	Samsung v Apple Inc.	Samsung	Complete	Y	Y	2012	N.D. CA	11-cv-01846
Patent Infringement	Fish and Richardson LLP	VirneTX v Avaya	Avaya	Complete	Y		2013	E.D. TX	6:11-cv-00018
Patent Infringement and Trade Secret Cellular Phones	Heller Ehrman White & McAuliffe	Broadcom Inc. v Qualcomm Inc.	Qualcomm	Complete	Y		21-Jan-03	S.D. CA	05-cv-1392
Patent Infringement	Baker & McKenzie LLP and Kilpatrick Stockton LLP	Data Treasury Corp. v. Wells Fargo. et al.	Wells Fargo and Wachovia.	Complete	Y		6/27/05	E.D. TX	2:2005-cv-00291; 2:2005-cv-00293
Patent Infringement	Morrison & Foerster	Class v Apple	Apple	Complete			9/22/06	Unknown	Unknown

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testim	Engagement	Venue	Case Number(s)
Patent Infringement	Cravath Swaine & Moore	Broadcom Inc. v Qualcomm Inc.	Qualcomm	Complete			10-Jan-07	C.D. CA	05-cv-00467
Patent Infringement	Cooley Godward Kronish LLP	Broadcom Inc. v Qualcomm Inc.	Qualcomm	Complete	Y	Y	13-Jan-08	ITC	337-TA-543
Arbitration	Cooley, Godward, Kronish LLP	Qualcomm v Panasonic	Qualcomm	Complete			6/24/09	Arbitration	None
Arbitration	Sidley Austin LLP	AT&T v. Intrado	AT&T Mobility LLC (f/k/a Cingular Wireless LLC) (_AT&TÓ);	Complete	Y		3-Nov-09	Arbitration	
Patent Infringement	Nixon Peabody; K&L Gates; Altson and Bird; Greenberg Traurig; Spotts Fain; Winston & Strawn; Goodwin Proctor	SPH America v Acer Inc. et al	Sierra Wireless; Novatel; Nokia; Hewlett Packard; UT Starcom; Motorola Solutions; Motorola Mobility.	Complete	Y		4/14/10	S.D. CA	3:2009-cv-02535
Patent Interference	Foley and Lardner LLP	Application Serial No 10/304,121 and U.S. Patent No. 7,084,529, Patent Interference No. 105,755(RES)	EnOcean GMBH	Complete			21-Jul-10	USPTO	Application Serial No 10/304,121 and U.S. Patent No. 7,084,529, Patent Interference No.
Patent Infringement	Mayer Brown LLP	MOSAID v Cisco	MOSAID	Complete	Y		9/10/10	D. Del.	10-cv-00687
Patent Infringement	Kilpatrick Townsend LLP	Golden Bridge v Motorola.	Motorola	Complete			5/20/11	D. Del.	1:2010-cv-00428
Patent Infringement	Quinn Emanuel LLP	Barnes & Noble v LSI	Barnes & Noble	Complete			6/14/11	N.D. CA	11-cv-02709
Patent Infringement	Covington LLP; Fish and Richardson LLP; Brinks Hofer Gilson & Lione LLP; Alston & Bird LLP	Interdigital v Huawei et al.	Huawei; LG; ZTE; Nokia	Complete	Y	Y	8/18/11	ITC	337-TA-800
Patent Infringement	Cravath LLP	Parkervision v Qualcomm	Qualcomm	Complete	Y	Y	11/2/11	MDFL	11-cv-00179
Patent Infringement	Latham & Watkins LLP	Sprint Communications v Time Warner Cable et al.	Time Warner Cable	Complete			1/30/12	D. KS	2:2011-cv-02686
Patent Infringement	Kilpatrick Townsend LLP	Digitide v Motorola	Motorola	Complete			14-Feb-12	ITC.	337-TA-827

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Dechert LLP	Intellectual Ventures I LLC and Intellectual Ventures II LLC v. AT&T Mobility LLC; AT&T Mobility II LLC; New Gingular Wireless Services Inc.; SBC Internet Services Inc.; Wayport Inc.; T-Mobile USA Inc.; Nextel Operations Inc.; Sprint Spectrum L.P.; United States Cellular Corporation; and Telephone and Data Systems Inc.	Intellectual Ventures I LLC and Intellectual Ventures II LLC	Complete	Y		7/5/12	D. Del.	1:2012-cv-00193
Patent Infringement	McKenna Long & Aldridge LLP	Comerica v Maxim Integrated Products	Comerica	Complete			8/1/12	W.D. PA	12-mc-00244
Patent Infringement	DLA Piper LLP	Technology Properties Limited LLC ("TPL");Phoenix Digital Solutions LLC ("PDS") and Patriot Scientific Corporation ("PTSC") v Samsung Electronics Co. Ltd. And Samsung Electronics America Inc.	Samsung	Complete			11/7/12	ITC	337-TA-853
Patent Infringement	Goodwin Procter LLP	WIAV Solutions v. ZTE Corporation. et al.	ZTE Corporation and ZTE (USA)	Complete			17-Dec-12	E.D. VA	1:12CV907
Patent Infringement	Fish and Richardson LLP	Ericsson v Samsung	Samsung	Complete			10-Jan-13	ITC	337-TA-862
Patent Infringement	Kirkland & Ellis LLP	SimpleAir Inc. v. Microsoft Corp. et al.	Samsung Electronics Co.; Ltd.; Samsung Electronics America; Inc.; and Samsung Telecommunications America LLC	Complete			19-Mar-13	E.D. TX	2:11-cv-00416-JRG
Patent Infringement	Winston & Strawn LLP	Adaptix v Motorola Mobility LLC et al.	Motorola Mobility	Complete			22-Mar-13	E.D. TX Tyler	6:12-cv-00016-MHS
Patent Infringement	Winston & Strawn LLP	Adaptix v Motorola Mobility LLC et al.	Motorola Mobility	Complete			22-Mar-13	N.D. CA	5:13-cv-01774-PSG
Patent Infringement	Bunsow De Mory Smith & Allison LLP	Cassidian Communications v. microData GIS Inc.; microData LLC; and TeleCommunications Systems Inc.	Cassidian Communications	Complete	Y	Y	1-Apr-13	E.D. TX Marshall	2:09-cv-00395-JRG
Patent Infringement	Kilpatrick Townsend & Stockton LLP	SimpleAir Inc. v. Microsoft Corporation et al.	Google Inc.	Complete	Y	Y	2-Apr-13	E.D. TX	2:11-cv-00416-JRG
Patent Infringement	Ropes & Gray LLP	InterDigital Technology Corp.IPR Licensing Inc. and InterDigital Holdings Inc	Samsung Electronics Co.; LTD.; Samsung Electronics America; Inc.; and Samsung Telecommunications America; LLC	Complete	Y		8-Apr-13	ITC Del.	337-TA-868 and Case No. 13-cv-00011
Patent Infringement	Covington & Burling LLP	InterDigital Technology Corp.IPR Licensing Inc. and InterDigital Holdings Inc	Huawei	Complete	Y		12-Jun-13	ITC Del.	337-TA-868 and Case No. 13-009 (RGA)).

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Covington & Burling LLP	InterDigital Technology Corp. IPR Licensing Inc. and InterDigital Holdings Inc.	Huawei	Complete			12-Jun-13	Arbitration	
Patent Infringement	Brinks Hofer Gilson & Lione	InterDigital Technology Corp. IPR Licensing Inc. and InterDigital Holdings Inc.	ZTE Corporation and ZTE (USA) Inc.	Complete			12-Jun-13	ITC Del.	337-TA-868 and Case No. 13-009 (RGA)).
Patent Infringement	Alston & Bird LLP	InterDigital Technology Corp. IPR Licensing Inc. and InterDigital Holdings Inc.	Nokia Corporation and Nokia Inc.	Complete			20-Jun-13	ITC Del.	337-TA-868 and Case No. 13-010 (RGA)).
Patent Infringement	Tensegrity Law Group LLP	Intellectual Ventures I LLC and Intellectual Ventures II LLC v Canon Inc. Canon U.S.A. Inc. and Canon Solutions America Inc.	Intellectual Ventures I LLC and Intellectual Ventures II LLC	Complete	Y		12-Jul-13	Del.	1:13-CV-00473-SLR (D. Del.)
Patent Infringement	Tensegrity Law Group LLP	Intellectual Ventures I LLC and Intellectual Ventures II LLC v Ricoh Company Ltd. Ricoh Americas Corporation and Ricoh Electronics Inc.	Intellectual Ventures I LLC and Intellectual Ventures II LLC	Complete			12-Jul-13	Del.	1:13-CV-00474-SLR (D. Del.)
Patent Infringement	OMelveny & Myers LLP	Commonwealth Scientific and Industrial Research Organisation v. MediaTek Inc. et al.	Samsung Electronics Co.; Ltd.; Samsung Semiconductor Inc.; and Samsung Telecommunications America; LLC	Complete			19-Jul-13	E.D. TX	6:12-cv-578-LED
Patent Infringement	Feinberg Day Alberti & Thompson LLP	Intellectual Ventures v PNC Bank, Capital One, First National Bank of Omaha, JP Morgan Chase, Fifth Third Bank, Bank of America, BBVA Compass Bank, Commerce Bank, Suntrust, and M&T	Intellectual Ventures	Complete	Y		30-Aug-13	E.D. VA	1:13-cv-740-AJT/TRJ
Patent Infringement	Feinberg Day Alberti & Thompson LLP	Intellectual Ventures v PNC Bank, Capital One, First National Bank of Omaha, JP Morgan Chase, Fifth Third Bank, Bank of America, BBVA Compass Bank, Commerce Bank, Suntrust, and M&T	Intellectual Ventures	Complete			30-Aug-13	W.D. PA	2:13-cv-00740-AJS
Patent Infringement	Gibson Dunn	AIP Acquisition LLC v. Cablevision Systems Corporation, et al.	CSC Holdings LLC	Complete			3-Sep-13	D. Del.	1:12-cv-01688-GMS)
Patent Infringement	Cooley LLP	Monec Holding AG v. Motorola Mobility LLC, et al.,	Exedeia, Inc	Complete			27-Sep-13	CA	11-798-LPS-SRF
Patent Infringement	Cooley LLP	Monec Holding AG v. Motorola Mobility LLC, et al.,	HTC Corporation	Complete	Y		27-Sep-13	CA	11-798-LPS-SRF
Patent Infringement	Kilpatrick Townsend & Stockton	Monec Holding AG v. Motorola Mobility LLC, et al.,	Motorola Mobility LLC	Complete	Y		27-Sep-13	CA	11-798-LPS-SRF

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Fish & Richardson P.C.	Monec Holding AG v. Motorola Mobility LLC, et al.,	Samsung Electronics America, Inc. and Samsung Electronics, Inc.	Complete	Y		27-Sep-13	CA	11-798-LPS-SRF
Arbitration	Covington & Burling LLP	Sasken Communication Technologies Limited v. Spreadtrum Communications, Inc. and Spreadtrum Communications USA Inc	Spreadtrum	Complete	Y	Y	30-Sep-13	American Arbitration Association International Centre for Dispute Resolution	50-117-T-00924-12
Patent Infringement	FINNEGAN, HENDERSON, LLP and HOLLAND & HART LLP	Cellport v. ZTE et al.	HTC Corp., et al	Complete			27-Oct-13	CO	1:13-cv-173 - RBJ
Patent Infringement	Dickstein Shapiro LLP, Lathrop & Gage, LLP	Cellport v. ZTE et al.	LG Electronics, Inc., et al	Complete			27-Oct-13	CO	1:13-cv-175 - RBJ
Patent Infringement	FOX ROTHSCHILD LLP, KING & SPALDING LLP	Cellport v. ZTE et al.	Nokia Corp., et al.	Complete			27-Oct-13	CO	1:13-cv-178 - RBJ
Patent Infringement	BAKER & MCKENZIE LLP	Cellport v. ZTE et al.	Pantech Co. Ltd., et al	Complete			27-Oct-13	CO	1:13-cv-179 - RBJ
Patent Infringement	GREENBERG TRAURIG, LLP	Cellport v. ZTE et al.	Samsung Electronics Co., Ltd., et al	Complete			27-Oct-13	CO	1:13-cv-180 - RBJ
Patent Infringement	Sheppard Mullin Richter & Hampton LLP	Cellport v. ZTE et al.	ZTE Corporation and ZTE	Complete			27-Oct-13	CO	1:12-cv-3296
Patent Infringement	Ropes & Gray LLP	Broadcom Corp. v. NXP Semiconductors USA, Inc.	Broadcom	Complete			11-Feb-14	CDCA	CV SA 8:13-829-MRP(MANx)
Patent Infringement	Quinn Emanuel LLP	GENBAND US LLC v. Metaswitch Networks Ltd., et. al.	Metaswitch Networks Ltd.	Complete	Y	Y	27-Feb-14	E.D. TX	2:14-CV-33-JRG-RSP
Patent Infringement	O'Melveny & Myers LLP	Concinnitas, LLC and George Hindman v. Samsung Telecommunications America, LLC, et al,	Electronics America, Inc. and Samsung	Complete			22-Apr-14	E.D. TX	2: 13-CV-824-JRG-RSP
IPR	Hill, Kertscher & Wharton, LLP	Regarding the U.S. Patent No. 8,400,926 B2	HTC Corporation	Complete			9-May-14	USPTO	U.S. Patent No. 8,400,926 B2
IPR	Hill, Kertscher & Wharton, LLP	Regarding the U.S. Patent No. 8,134,600, 8,477,197, 8581,991	HTC Corporation	Complete			9-May-14	USPTO	U.S. Patent No. 8,134,600, 8,477,197, 8581,991
IPR	Morgan, Lewis & Bockius, LLP	Regarding the U.S. Patent No. 6,819,923	NEC Casio Mobile Communications Ltd. and NEC Corp of America	Complete			25-Jun-14	USPTO	U.S. Patent No. 6,819,923

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
IPR	Everett Upshaw, PLLC	Regarding the U.S. Patent No. 7,215,962	ZTE Corporation and ZTE (USA)	Complete	Y		25-Jun-14	USPTO	U.S. Patent No. 7,215,962
Patent Infringement	Fenwick & West LLP	Cellular Communications Equipment LLC v. Amazon.com, Inc. et al	Amazon Inc.	Complete			1-Jul-14	E.D. TX	TXED-6-13-cv-00569; consolidated with Case No. 6-13-cv-00507
Patent Infringement	Pillsbury Winthrop Shaw Pittman	Cellular Communications Equipment LLC v. HTC Corporation et al	HTC Corporation	Complete			1-Jul-14	E.D. TX	6:13-cv-00507
IPR	H.C. Park & Associates, PLC	Regarding the U.S. Patent No. 7,218,923	Pantech Co. Ltd., et al	Complete			2-Jul-14	USPTO	U.S. Patent No. 7,218,923
Patent Infringement	Pillsbury Winthrop Shaw Pittman	SPH America LLC v. ZTE Corp et. al.	ZTE Corporation and ZTE (USA) Inc.	Complete			10-Jul-14	ED TX	3:13-cv-02326
Patent Infringement	Pillsbury Winthrop Shaw Pittman	Novatel Wireless, Inc. v. ZTE Corp. et. al.	ZTE Corporation and ZTE (USA) Inc.	Complete			16-Jul-14	ED TX	3:12-cv-02576
IPR	Pillsbury Winthrop Shaw Pittman	Regarding Vringo patents	ZTE Corporation and ZTE (USA) Inc.	Complete			21-Aug-14	USPTO	U.S. Patents
Patent Infringement	Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.	OpenTV Inc. et. al. v. Apple, Inc.	OpenTV, Inc. and Nagravision, SA of the Kudelski Group	Complete			22-Sep-14	N.D. CA	14-cv-01622-JST
IPR	Foley and Lardner LLP	Regarding the U.S. Patent No. 8,532,231, 8,565,346	Huawei Technologies Co., Ltd., Futurewei Technologies, Inc. and Huawei Device USA,	Complete			14-Oct-14	USPTO	Regarding the U.S. Patent No. 8,532,231, 8,565,346
Patent Infringement	Desmarais LLP	Intellectual Ventures I LLC and Intellectual Ventures 11 LLC v. Nikon Corp., et al	Intellectual Ventures I LLC and Intellectual Ventures II LLC	Complete			11-Nov-14	Del.	1:11-CV-1025-SLR
Patent Infringement	Cooley LLP	ParkerVision, Inc. v Qualcomm Incorporated, et al	Qualcomm	Ongoing			15-Dec-14	MDFL	6:14-cv-00687
Patent Infringement	DLA Piper LLP	Technology Properties Ltd LLC et al. v. Samsung Electronics Co., Ltd	Samsung Electronics Co., Ltd.	Complete			22-Jan-15	N.D. CA	3:12-cv-03879

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Paul Hastings	Summit 6 LLC v. HTC Corp.	HTC Corp and HTC America	Complete			3-Apr-15	NDTX	7:14-cv-00014
Patent Infringement	Kolpatrick Townsend & Stockton LLP	Summit 6 LLC v. Motorola	Google/Motorola	Complete			8-Apr-15	NDTX	7:14-cv-00014
Patent Infringement	Quinn Emanuel LLP	Cellular Communications Equipment LLC v. Samsung Electronics Co., Ltd. et al	Samsung Electronics Co., Ltd.,	Complete			8-Jun-15	E.D. TX	6:14-cv-759-JRG
IPR	Sterne, Kessler, Goldstein & Fox PLLC	Int'l Bus. Machines Corp. v IV	IV	Complete	Y		10-Jun-15	USPTO	2015-00089, 2015-00092
Patent Infringement	Novak, Druce Connolly Bove + Quigg LLP	Sonus Networks, Inc. v Inventergy, Inc. and Inventergy Global, Inc	Inventergy, Inc. and Inventergy Global, Inc	Complete			24-Jul-15	N.D. CA	15-cv-00322
Patent Infringement	Novak, Druce Connolly Bove + Quigg LLP	Sonus Networks, Inc. v Inventergy, Inc. and Inventergy Global, Inc	Inventergy, Inc. and Inventergy Global, Inc	Complete			24-Jul-15	MA	15-cv-10207
Patent Infringement	Novak, Druce Connolly Bove + Quigg LLP	Sonus Networks, Inc. v Inventergy, Inc. and Inventergy Global, Inc	Inventergy, Inc. and Inventergy Global, Inc	Complete			24-Jul-15	E.D. TX	14-cv612
Report	Norton Rose Fulbright US LLP	The Smallest Salable Patent-Practicing Unit (SSPPU): Theory and Evidence	Qualcomm	Complete			8-Sep-15	N/A	N/A
Arbitration	Mayer Brown LLP	Nokia Technologies Ltd and LG Electronics, Inc.	LG Electronics, Inc.	Complete	Y		25-Sep-15	Arbitration	None
IPR	Sterne, Kessler, Goldstein & Fox PLLC	LM Ericsson v IV	Intellectual Ventures I LLC and Intellectual Ventures II LLC	Complete	Y		18-Dec-15	USPTO	2015-01872
IPR	Sterne, Kessler, Goldstein & Fox PLLC	Old Republic Group Inc. v IV	Intellectual Ventures I LLC and Intellectual Ventures II LLC	Complete	Y		18-Dec-15	USPTO	IPR2015-01992, CBM2015-00184
IPR	Sterne, Kessler, Goldstein & Fox PLLC	LM Ericsson v IV	Intellectual Ventures I LLC and Intellectual Ventures II LLC	Complete	Y		26-Dec-15	USPTO	2015-01873
Patent Infringement	Cooley LLP	ParkerVision, Inc. v Qualcomm Incorporated, et al	Qualcomm	Complete			1-Feb-16	ITC	337-TA-982
Patent Infringement	Fish & Richardson P.C.	TiVo Inc. v. Samsung Electronics Co., Ltd., et al.,	Electronics Co., Ltd. and Samsung	Complete			14-Mar-16	EDTX	2:15-CV-1503

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	RuyakCherian LLC	Brocade Communications Systems, Inc.	Brocade Communications Systems, Inc.	Complete			4-May-16	None	None
Report	Norton Rose Fulbright US LLP	European Commission Sapphire Investigation (Case AT.40220 - Qualcomm)	Qualcomm	Ongoing			5-May-16	European Commission	
IPR	Bragalone Conroy PC	Securus Technologies, Inc. v. Global Tel*Link Corporation	Securus Technologies, Inc.	Complete	Y		6-May-16	USPTO	IPR2016-01123
Patent Infringement	Cooley LLP	Skky, LLC v. Facebook, Inc. et al.	Facebook, Inc.	Complete			7-Jun-16	?	16-cv-00094-WMW-FLN
IPR	Pillsbury Winthrop Shaw Pittman	Cellular Communications Equipment LLC v. AT&T et al	HTC Corporation, HTC America	Complete	Y		7-Jul-16	USPTO	Regarding U.S. Patents 8,457,676 and 8,570,957
IPR	Pillsbury Winthrop Shaw Pittman	Cellular Communications Equipment LLC v. AT&T et al	ZTE Corporation and ZTE (USA), Inc.	Complete			7-Jul-16	USPTO	Regarding U.S. Patents 8,457,676 and 8,570,957
Patent Infringement	Desmarais LLP	Uniloc USA, Inc. and Uniloc Luxembourg S.A. v. Cisco Systems, Inc.	Cisco Systems, Inc.	Complete			15-Jul-16	E.D. TX	6:15-CV-1175-JRG
Patent Infringement	Quinn Emanuel LLP	GENBAND US LLC v. Metaswitch Networks Ltd., et. al.	Metaswitch Networks Ltd.	Complete	Y		15-Jul-16	E.D. TX	2:16-cv-582-JRG-RSP
Patent Infringement	Duanne Morris	Ruckus Wireless, Inc. v Chrimar Systems d/b/a CMS Technologies and Chrimar Holding Company LLC	Ruckus Wireless	Complete			27-Jul-16		
Patent Infringement	Singularity IP & Foster Pepper PLLC	CommScope Technologies LLC v. Dali Wireless, Inc.,	CommScope Technologies LLC	Complete			17-Aug-16	N.D. Tx	3:16-cv-00477
Patent Infringement	Quinn Emanuel LLP	Huawei Technologies, Co. Ltd et al v. Samsung Electronics Co, Ltd. et al	Electronics Co., Ltd. and Samsung Electronics	Complete	Y		23-Aug-16	NDCA	3:16-cv-02787
Patent Infringement	Foster Pepper PLLC	CommScope Technologies LLC v. Dali Wireless, Inc.,	CommScope Technologies LLC	Complete			15-Oct-16	N.D. Tx	3:16-cv-00477
Technology Review	Foster Pepper PLLC	Dali Wireless, Inc.	Dali Wireless, Inc.	Complete			28-Oct-16	None	None
Patent Analysis	Foster Pepper PLLC	Dali Wireless, Inc v. Fiplex Communications, Inc.	Dali Wireless, Inc	Complete			29-Oct-16		
Patent Infringement	Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.	Certain Digital Cable and Satellite Products, Set-Top Boxes, Gateways, and Components Thereof	Sony Corporation	Complete			8-Dec-16	ITC	337-TA-1049
Patent Infringement	Irell & Manella, LLP	various patent disputes involving Mobile Telecommunications Technology, LLC ("MTel") and regarding United States Patents Nos. 5,590,403, 5,659,891, and 5,915,210.	Juniper Networks, Inc.	Complete			29-Dec-16		

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Dechert, LLP, Winston & Strawn	Tech Pharmacy Services, LLC v. Alixa RX LLC., et al.	Alixa RX LLC	Complete	Y		6-Jan-17	EDTX	4:15-cv-766
Patent Infringement	Sheppard Mullin Richter & Hampton LLP	Papst Licensing GMBH & Co. KG v. ZTE Corporation and ZTE (USA), Inc.	ZTE (USA), Inc.	Complete	Y		27-Jan-17	EDTX	6: 15-cv-1100
Antitrust	Freitas Angell & Weinberg LLP	Intellectual Ventures I LLC v Capital One	Intellectual Ventures	Complete			15-Feb-17	MD	8:14-cv-111 (PWG)
IPR	Knobbe, Martens, Olson, & Bear LLP	Symantec Corporation ("Symantec") v, IV's U.S. Patent No. 7,757,298	IV	Complete			16-Feb-17	USPTO	2016-01433
Patent Infringement	Cooley LLP	Uniloc USA, Inc. et al. v. Facebook, Inc. et al.	Facebook, Inc.	Complete			17-Feb-17	EDTX	2:16-cv-00728
Patent Infringement	Feinberg Day Alberti & Thompson LLP	OpenTV Inc. v. NFL Enterprises, LLC	OpenTV, Inc.	Complete			23-Mar-17	EDTX	6:17-cv-00031
IPR	Finnegan, Henderson, Farabow, Garret & Dunner, L.L.P.	Unified Patents (6,014,089, 7,346,313)	Unified Patents	Complete			4/8/17	USPTO	(6,014,089, 7,346,313)
Patent Infringement	Irell & Manella, LLP	Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V. v. Sirius XM Radio, Inc.,	Fraunhofer	Complete			17-May-17		<u>17-184-VAC-SRF</u>
Technology Review	RuyakCherian LLC	XR Communications, LLC., dba Vivato Technologies v. Ruckus Wireless, Inc.	Ruckus Wireless	Complete			13-Jun-17	CDCA	2:17-cv-02961
Patent Infringement	DLA Piper LLP	Mobile Telecommunications Technologies, LLC v. Aruba Networks, Inc., et al.,	Aruba/HPE and HP	Complete			25-Aug-17	MD	16-md-2722
Patent Infringement	Dechert, LLP	Intellectual Ventures I LLC v. T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson	IV	Complete	Y	Y	29-Aug-17	EDTX	2:17-cv-00577-JRG
Patent Infringement	Cooley LLP	Silver State Intellectual Tech., Inc. v. Facebook, Inc. et al.	Facebook, Inc.	Complete			19-Sep-17	ND CA	4:17-cv-03349-JSW
Patent Infringement	Quinn Emanuel LLP	QCOM v Apple SD Cal	Qualcomm	Complete	Y		15-Nov-17	SD. Cal,	5:17-cv-0108-GPC-MDD,
Patent Infringement	Norton Rose	QCOM v Apple	Qualcomm	Complete	Y		15-Nov-17	ND Cal	5:17-md-02773-LHK,
Patent Infringement	Norton Rose	QCOM v Apple	Qualcomm	Complete	Y		15-Nov-17	ND Cal	5:17-cv-00220-LHK
Patent Infringement	Quinn Emanuel LLP	In the Matter of CERTAIN MOBILE ELECTRONIC DEVICES AND RADIO FREQUENCY AND PROCESSING COMPONENTS THEREOF	Qualcomm	Complete	Y		10-Jan-18	ITC	U.S. PATENT NO. 9,608,675
Patent Infringement	Paul Hastings	3G Licensing, S.A. et al v. HTC Corporation	HTC Corporation	Complete			7-Mar-18	Del.	1:17-cv-00083-LPS-CJB
Patent Infringement	Fish & Richardson P.C.	Sonus Networks, Inc. v. Metaswitch Networks Ltd. et al,	Metaswitch Networks Ltd.	Complete			19-Jun-18	EDTX Marshall	18-cv-00057-RWS, 18-cv-00058-RWS, IPR
Request for Reexam	Dentons US LLP	Request for Reexam re: patent 7,814,216	Dentons	Complete			6-Sep-18	USPTO	US Patent 7,814,216

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Contract Dispute	Jones Day	Qualcomm, Inc. v. Apple, Inc.	Qualcomm	Complete	Y		28-Sep-18	San Diego Superior Ct	37-2017-00041389-CU-BC-NC
Patent Infringement	O'Melveny & Myers LLP	Top Victory Electronics (Taiwan) Co. Ltd. v. American Patents LLC	Top Victory Electronics	Complete			13-Dec-18	EDTX	4:18-cv-00768-ALM
Patent Infringement	Birch, Stewart, Kolasch & Birch, LLP	Blitzsafe Texas LLC v Mitsubishi Electric Corp, et al.	Mitsubishi	Complete			19-Feb-19	EDTX	2:17-cv-00430-JRG
IPR	Jones Day	Qualcomm/Intel PTAB Matters (U.S. Patent No. 9,608,675)	Qualcomm	Complete	Y		20-Feb-19	USPTO	IPR2018-01326 to 01330 and IPR2018-01340
Patent Infringement	Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.	Uniloc Luxembourg S.A., Uniloc 2017 LLC ("Uniloc") v LG Electronics Inc., LG Electronics U.S.A., Inc., and LG Electronics MobileComm U.S.A., Inc. ("LG")	LG	Complete			11-Mar-19	NDCA	3:18 cv-06737-JST, 5:18-cv-06738-LHK, 3:18-cv-06739-JST, 3:18-cv-06740-JST) and PTO
Ex Parte	Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P.	TCL Communication Technology Holdings Ltd. ("TCL").	TCL	Complete			13-Mar-19	USPTO	U.S. Patent No. 7,149,510
Patent Infringement	Mayer Brown LLP	Maxell, Ltd., et al., v. Apple Inc.	Maxell	Complete	Y		15-Apr-19	EDTX	5:19-cv-00036-RWS
Patent Infringement	Maschoff Brennan	ICON Health & Fitness, Inc. v. Tme Fitness Technology, Inc	ICON	Complete			29-May-19	Missouri	4:18-cv-00439
Patent Infringement	Gibson Dunn	Sprint Communications Co. L.P. v. Cequel Communications, UC et al.	Altice USA	Complete	Y		17-Jun-19	Del.	1:18-cv-01752-RGA
Patent Infringement	Charhon Callahan Robson & Garza, PLLC	United Access Technologies, LLC ("UAT") in connection with UAT's lawsuits against AT&T, Verizon, Frontier and CenturyTel,	UAT	Complete	Y		17-Jun-19		1:05-cv-00866-LPS, 1:11-cv-00338-LPS, 1:11-cv-00341-LPS
Patent Infringement	Susman Godfrey I.L.P.	Sol IP, LLC v. AT&T Mobility LLC, et al.	Sol IP	Complete	Y		24-Jul-19	E.D. Tex.	2:18-cv-00526; 2:18-cv-00527; 2:18-cv-00528
IPR	Kelley Drye & Warren LLP	Zomm / Apple PTAB Matters (U.S. Patent No. 9,608,675)	Zomm, LLC	Complete	Y		30-Jul-19	USPTO	IPR2019-275, IPR2019-277, IPR2019-1030
Patent Infringement	Fish & Richardson P.C.	Bell Northern Research, LLC v. LG Electronics Inc., et al.,	LG Electronics, Inc.	Complete			6-Aug-19	SD. Cal	18-cv-2864-CAB-BLM
Technology Consulting	Norton Rose Fulbright US LLP	Sanyo v. Intel	Sanyo	Complete	Y		3-Dec-19	Chancery of Delaware	C.A. No. 2018-0723-MTZ
Patent Infringement	Sidley Austin LLP	LG Electronics Inc. v. Hisense Electronics Manufacturing Company of America	LG	Complete			15-Jan-20	CDCA	2:19-cv-09474-SJO-E
Patent Infringement	Ahmad, Zavitsanos, Anaipakos, Alavi, Mensing	Cellular Evolution, LLC v. AT&T Mobility, LLC and Cricket Wireless, LLC	Cellular Evolution	Complete			30-Jan-20	EDTX	19-cv-00228

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Ahmad, Zavitsanos, Anaipakos, Alavi, Mensing	Cellular Evolution, LLC v. T-Mobile, US, Inc. and T-Mobile USA, Inc.,	Cellular Evolution	Complete			30-Jan-20	EDTX	19-cv-00232
Patent Infringement	Cooley LLP	ParkerVision v. Apple	Qualcomm	Complete			11-Feb-20	MDFL	3:15-cv-01477
Patent Infringement	Cooley LLP	ParkerVision v. Qualcomm	Qualcomm	Complete	Y		11-Feb-20	MDFL	6:14-cv-00687
IPR	Wolf Greenfield LLP	MediaTek v NTT	MediaTek	Complete	Y		2-Jul-20	USPTO	Re U.S. Patent Nos. 7,280,551 and 7,400,616
Patent Infringement	Mintz, Levin	Parus Holdings, Inc.	Parus Holdings	Complete			31-Aug-20	WDTX	Not specified
Patent Infringement	Venable LLP	Blitzsafe Texas LLC v. Fiat Chrysler Automobiles N.V., FCA US LLC et al.	Maserati North America Inc. and FCA US LLC	Complete	Y		8-Sep-20	EDTX	2:19-cv-00378-JRG
IPR	Wolf Greenfield LLP	Bose Corporation v. KOSS Corporation	Bose	Complete	Y		20-Oct-20	USPTO	U.S. Patent No. 10,368,155
Patent Infringement	Shearman & Sterling LLP	StratosAudio, Inc. v. Volkswagen Group of America, Inc	Volkswagen	Complete	Y		13-Jan-21	WDTX	6:20-cv-1131
Patent Infringement	Fish & Richardson P.C.	Ericsson Inc v. Samsung Electronics Co.	Samsung	Complete			11-Mar-21	ITC and EDTX	337-TA-1248 and No. 2:20-cv-380 (E.D. Tex.),
Patent Infringement	Dechert, LLP	IPCom v AT&T Inc, Verizon, Sprint	IPCom	Settled	Y		17-Mar-21	EDTX	PCom Gmbh & Co. KG v. AT&T Inc. et al., Case No. 2:20-cv-00322 (E.D. Tex.); IPCom Gmbh & Co. KG v. Verizon Communications Inc. et al., Case No. 2:20-cv-00323 (E.D. Tex.); and IPCom Gmbh & Co. KG v. Sprint Spectrum L.P. et al., Case No. 2:20-cv-00321 (E.D. Tex.)
Patent Infringement	Desmarais LLP	Cellspin Soft, Inc. v. Google Fitbit, Inc.	Google / Fitbit	Complete			1-Jun-21	NDCA	4:17-cv-05928-YGR
Patent Infringement	Sidley Austin LLP	WSOU v. Hewlett Packard	Hewlett Packard	Settled			4-Jun-21	WDTX	U.S. Patent Nos. 7,280,534; 7,386,630; 7,443,832; 7,519,056; 7,646,729; 8,462,774; and 9,398,629
Patent Infringement	DLA Piper LLP	Cellspin Soft, Inc. v. Nike Inc	Nike	Complete			28-Jul-21	NDCA	4:17-cv-05931-YGR
Patent Infringement	Harness Dickey	Cellspin Soft, Inc. v. Under Armour, Inc.	Under Armour	Complete			4-Aug-21	NDCA	4:17-cv-05932-YGR
Patent Infringement	Lamkin IP	Cellspin Soft, Inc. v. Garmin, Inc.	Garmin	Complete			6-Aug-21	NDCA	4:17-cv-05934-YGR

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Fish & Richardson P.C.	Cellspin Soft, Inc. v. Fossil, Inc.	Fossil	Complete			18-Aug-21	NDCA	4:17-cv-05933-YGR
Patent Infringement	Morrison & Foerster	Cellspin Soft, Inc. v. Nikon, Inc.	Nikon	Complete			23-Aug-21	NDCA	4:17-cv-05936-YGR
Patent Infringement	Fish & Richardson P.C.	Smart Mobile Technologies, LLC v. Samsung Electronics	Samsung	Complete			1-Oct-21	CDTX	6:21-cv-00701-ADA
Patent Infringement	Ruyak Cherian LLP	Bright Data Ltd. v. NetNut Ltd.	Bright Data	Complete	Y		7-Oct-21	EDTX	2:21-cv-00225-JRGRSP
Patent Infringement	Quinn Emanuel LLP	Verkada, Inc. v. Motorola Solutions Inc.	Verkada	Complete	Y	Y	25-Oct-21	ITC	Inv. No. 337-TA-1281
Patent Infringement	Mayer Brown LLP	Maxell, Ltd., v. Lenovo Group Ltd., Lenovo (United States) Inc., and Motorola Mobility LLC	Maxell	Complete			9-Nov-21	WDTX	6:21-cv-01169
Patent Infringement	Mayer Brown LLP	Maxell, Ltd., v. Lenovo Group Ltd., Lenovo (United States) Inc., and Motorola Mobility LLC	Maxell	Complete			9-Nov-21	ITC	Inv. No. 337-TA-1324
Patent Review		Collision Communications	Collision	Complete			1-Feb-22		
Patent Infringement	Kasowitz Benson Torres LLP	IV v GM	IV	Complete			18-Feb-22	WDTX	6:21-cv-01088-ADA
Patent Infringement	Kasowitz Benson Torres LLP	IV v Toyota	IV	Complete			18-Feb-22	WDTX	2:21-CV-00389-JRG-RSP
Patent Infringement	Kasowitz Benson Torres LLP	IV v Honda	IV	Complete			18-Feb-22	WDTX	2:21-CV-03090-JRG-RSP
Patent Infringement	LTL Attorneys LLP	Howlink Global LLC v. Verizon Comm'ns, et al.	Howlink	Complete			21-Mar-22	EDTX	22-cv-00040
Patent Infringement	LTL Attorneys LLP	Howlink Global LLC v. AT&T, Inc., et al.	Howlink	Complete			21-Mar-22	EDTX	22-cv-00042
Patent Infringement	Heim Payne Chorush LLP	Telecom Network Solutions v. AT&T	Telecom Network Solutions	Complete			20-Apr-22	EDTX	2:21-cv-00415-JRG,
Patent Infringement	Heim Payne Chorush LLP	Telecom Network Solutions v. Verizon,	Telecom Network Solutions	Complete			20-Apr-22	EDTX	2:21-cv-00416-JRG,
Patent Infringement	Heim Payne Chorush LLP	Telecom Network Solutions v. T-Mobile	Telecom Network Solutions	Complete			20-Apr-22	EDTX	2:21-cv-00418-JRG,
Patent Infringement	Baker Botts LLP	LG Electronics Inc. v. TCL Electronics Holdings Ltd. et al.,	LG Electronics, Inc.	Complete			17-May-22	EDTX	2:22-cv-00122
Patent Infringement	Ruyak Cherian LLP	Bright Data Ltd. Various IPRs	Bright Data	On Hold	Y		1-Jun-22	USPTO	IPR 2022-00861, IPR 2022-00862
Report	Norton Rose Fulbright US LLP	A Study of the IPlytics Platform and its Semantic Essentiality Score	Qualcomm	Complete			11-Sep-22	N/A	N/A
Patent Infringement	K&L Gates LLP	Competitive Access Systems, Inc. v. Oracle Corporation	CAS	Complete			23-Sep-22	EDTX	2:22-cv-00287

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Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Jones Day	BJ's Wholesale Club Holdings, Inc. v. Walmart Apollo, LLC	Walmart	Complete	Y		11-Nov-22	USPTO	IPR2022-01471, IPR2022-01528, IPR2022-01561, IPR2022-01563, IPR2022-01564
Patent Infringement	Ruyak Cherian LLP	Metacluster LT, UAB v. Bright Data Ltd.	Bright Data	On Hold	Y		1-Feb-23	EDTX	2:22-cv-11-JRG-RSP
Patent Infringement	BartlitBeck LLP	General Access Solutions Ltd. V. Verizon, et. al.	GAS	Complete			7-Feb-23	USPTO	IPR
Patent Infringement	Sterne, Kessler, Goldstein&Fox PLLC	Roku, Inc. v Dolby International AB	Roku	Complete			8-Feb-23	USPTO	IPR - '757 Patent
Patent Infringement	Susman Godfrey LLP	Koninklijke KPN N.V. v Ericsson	KPN	Complete			7-Mar-23	EDTX	2:22-cv-282
Patent Infringement	Jones Day	The Talisman Group, LLC. v Light and Wonder (LNU Gaming, Inc)	LNU	Complete			14-Apr-23	USPTO	IPR
Patent Infringement	Mintz, Levin	Mullen Industries v Apple Inc.	Mullen	Complete	Y		3-May-23	USPTO	IPR
Patent Infringement	Baker Botts, LLP	AGIS Software Development, LLC v Samsung Electronics Co, Ltd.	Samsung	Complete			16-May-23	EDTX	2:22-cv-00263-JRG-ADA
Patent Infringement	Fish & Richardson P.C.	Entropic Communications, LLC v DISH Network Corp.	DISH	Complete	Y		30-Jun-23	USPTO	IPR
Patent Infringement	Russ August &Kabat	Headwater Research LLC	Headwater	Complete			8-Sep-23		
Patent Infringement	Russ August &Kabat	Cobblestone Wireless, LLC v. T-Mobile USA, Inc.,	Cobblestone	Complete	Y		1-Dec-23	EDTX	2:22-cv-477
Patent Infringement	Russ August &Kabat	Cobblestone Wireless, LLC v. Cellco Partnership d/b/a Verizon Wireless,	Cobblestone	Complete	Y		1-Dec-23	EDTX	2:23-cv-382
Patent Infringement	Anand & Anand	QCOM v Transsion (India - Anand & Anand)	Qualcomm	Complete			1-Dec-23	India High Court	
Patent Infringement	Anand & Anand	LG Electronics Inc. versus Vivo Mobile India Private Limited & Ors.	LG	Complete			12-Dec-23	Delhi High Court	CS. (Comm) 665 of 2023
Patent Infringement	twobirds, Licks Attorneys	QCOM v Transsion (Brazil, The Philippines, Indonesia)	Qualcomm	Complete			1-Feb-24		
Patent Infringement	Susnan Godfrey LLP	Pegasus Wireless Innovation LLC v. AT&T Inc. et al.	Pegasus	Complete	Y		7-Feb-24	ED TX	23-cv-638
Patent Infringement	Susnan Godfrey LLP	Pegasus Wireless Innovation LLC v. Verizon Comm. Inc. et al.	Pegasus	Complete	Y		7-Feb-24	ED TX	23-cv-640
Patent Infringement	Susnan Godfrey LLP	Pegasus Wireless Innovation LLC v. T-Mobile US, Inc. et al.	Pegasus	Complete	Y		7-Feb-24	ED TX	23-cv-639
Patent Infringement	King Spalding	Fleet Connect Solutions, LLC v. Peloton Interactive, Inc.	Peloton	Complete			14-Mar-24	WD TX	1:23-cv-00682
Patent Infringement	Kramer Alberti	Adaptive Spectrum and Signal Alignment, Inc. v. Charter Communications, Inc., et al.,	ASSIA	Complete			25-Apr-24	ED TX	2:24-cv-00124-JRG-RSP
Patent Infringement	Kramer Alberti	RavenWhite Licensing LLC v. The Home Depot, Inc. et al.,	RavenWhite	Complete			7-May-24	EX TX	
Patent Infringement	Mayer Brown	Powermat Technologies Ltd. v. Anker Innovations Ltd.	Powermat	Complete	Y		11-May-24	EX TX	5:23-cv-00052-RWS
Patent Infringement	Finnegan	DIRECTV, LLC v. Entropic Communications, LLC:	DirectTV	Complete	Y		30-Jun-24	USPTO	IPR2024-01064 (PTAB) , 01063, 01061,

Dr Tim A Williams Case History

Case Type	Firm	Case Name	Client	Status	Deposition	Trial Testimony	Engagement	Venue	Case Number(s)
Patent Infringement	Jones Day	Rally AG LLC v. Apple	Rally	On Hold			30-Oct-24	D Del	IPR2024-01446 and case 1-23-cv-01106
Patent Infringement	Fish	VideoAmp v Nielson	VideoAmp	Complete	Y		9-Dec-24	USPTO	IPRs
Patent Infringement	Mayer Brown	Powermat Technologies Ltd. v. Belkin International, Inc.	Powermat	Ongoing			10-Apr-25	CDCA	2:24-cv-2595=MEMF-PVC
Patent Infringement	Avantech Law	AutoConnect v various entities including Toyota, GM, Ford	AutoConnect	Ongoing			14-Nov-24		
Patent Infringement	Devlin	AX Wireless, LLC v. Sony, et al	AX Wireless	Complete	Y		30-Jan-25		
Patent Infringement	Quinn Emanuel LLP	Cloud Byte, LLC v Dell, Inc	Cloud Byte	Ongoing			3-Sep-24	EDTX	2:24-cv-00637-JRG
Patent Infringement	Fish & Richardson P.C.	DISH v. Entropic Communications, LLC:	DISH	Complete	Y		30-Jun-24	USPTO	
Patent Infringement	Mayer Brown	Maxell, Ltd. V. TCL Electronics Holdings Ltd.	Maxell	Complete	Y		10-Oct-24	CDCA	PTAB and 5:23-cv-00108-RWS-JBB
Patent Infringement	Cherian LLP	QPrivacy USA LLC v. Cisco Systems, Inc	Qprivacy	On Hold			30-Dec-24	EDTX	2:24-cv-855-JRG
Patent Infringement	Russ August &Kabat	XR Communications, LLC. v. AT&T Services, Verizon Comm.	XR	Complete	Y		27-Sep-24	EDTX	2:23-cv-202-JRG-RSP and 2:23-cv-470-JRG Consolidated
Patent Infringement	Sterne, Kessler, Goldstein&Fox PLLC	ISG v Dell, HP, Lenovo	ISG	Complete	Y	Y	1-Jun-25	ITC	337-TA-1429
Patent Infringement	Stinson	Competitive Access Systems, Inc. v. Apple Inc	CAS	Ongoing			17-Jun-25	NDCA	5-25-cv-04595, NDCA
Patent Infringement	Latham & Watkins	Estelgia LLC v ASUSTek, D-Link, Linksys	Estelgia	Complete	Y		28-Jul-25	ITC	337-TA-1454
Patent Infringement	Klarquist	Fleet Connect Solutions v Portable Multimedia (NextBase)	NextBase	OnHold			5-Nov-25		
Patent Infringement	Reichman	Malikie Innovations v Vantia SA	Malikie	Ongoing			20-Nov-25	EDTX	2:25-cv-00163-JRG-RSP
Patent Infringement	Russ August &Kabat	Cobblestone Wireless, LLC v. Apple Inc.,	Cobblestone	Ongoing			12-Jan-26	WDTX	7:24-cv-232-ADA