

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

**Before the Honorable MaryJoan McNamara
Administrative Law Judge**

In the Matter of

CERTAIN DIGITAL VIDEO
RECEIVERS, BROADBAND
GATEWAYS, AND RELATED
HARDWARE AND SOFTWARE
COMPONENTS

Investigation No. 337-TA-1158

**EXPERT REPORT OF DR. MARK T. JONES
CONCERNING VALIDITY OF U.S. PATENT NO. 7,200,855**

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I. INTRODUCTION

A. Background

1. My name is Mark T. Jones.

2. I have been retained by counsel for Complainants Rovi Corporation and Rovi Guides, Inc., (collectively “Rovi”) as an expert in the above-captioned Investigation. I expect to testify at the hearing regarding the matters set forth in this report if requested to do so.

3. Currently, Rovi is asserting claims 14, 29, 60, and 63. These will be referred to collectively as “the Asserted Claims” of “the Asserted Patent” or “the Patent.”

4. In particular, I have been asked to provide opinions regarding validity of the Asserted Claims against the challenges raised in the “Expert Report of Sandeep Chatterjee, Ph.D. Regarding the Invalidity of U.S. Patent No. 7,200,855 (the “Chatterjee Report”).

5. This report includes my opinions on these issues. For any factual statement for which I have not provided a documentary citation, I am informed that Rovi will provide proof at the hearing and/or in witness statements of such facts.

6. I am being compensated at the rate of \$550 per hour for my work performed in connection with this matter. My compensation does not depend on the contents of this report, any testimony I may provide, or the ultimate outcome of this Investigation.

7. I previously submitted a report in this Investigation entitled “Expert Report of Dr. Mark T. Jones Concerning Infringement of U.S. Patent No. 7,200,855” dated September 17, 2019 (the “Jones Infringement Report”). My qualifications and the circumstances of my engagement were detailed in ¶¶ 9-13 of the Jones Infringement Report.

B. Materials Considered

8. In preparing this report, I reviewed the Patent and its prosecution history, including the references cited therein. I have also reviewed the Chatterjee Report and the

materials cited therein. The materials I have reviewed in connection with preparing this report are listed in Exhibit A.

II. SUMMARY OF OPINIONS

9. The Chatterjee Report does not demonstrate that any Asserted Claim is invalid.

III. PRELIMINARY MATTERS

10. An overview of the '855 patent was provided in ¶¶ 46-49 of the Jones Infringement Report.

11. My characterization of one of ordinary skill in the art was detailed in ¶¶ 50-52 of the Jones Infringement Report.

12. My opinions concerning the proper construction of disputed claims terms were contained in ¶¶ 53-82 of the Jones Infringement Report.

IV. REBUTTAL TO THE CHATTERJEE REPORT

13. In the following section, I explain my differences with Dr. Chatterjee's report concerning validity. The fact that I may not address a particular statement or opinion of Dr. Chatterjee's report does not necessarily mean that I agree with such statement or opinion.

A. Legal Principles

14. I have been informed by counsel that the following principles of law are applicable to an analysis of validity of a patent claim.

15. For a claim to be anticipated, every limitation of the claimed invention must be found in a single prior art reference, either expressly or inherently, arranged as in the claim.

16. A claim element is inherent in a prior art reference if it is "necessarily present" in the disclosed apparatus, system or method, not merely probably or possibly present.

17. A patent claim cannot be anticipated by a prior art reference if the allegedly anticipatory disclosures in the reference are not enabled.

18. In determining whether a claimed invention is obvious, one should consider the scope and content of the prior art, the level of ordinary skill in the relevant art, the differences between the claimed invention and the prior art, and whether the claimed invention would have been obvious to one of ordinary skill in the art in light of those differences.

19. A person of ordinary skill is a hypothetical person who is presumed to be aware of all of the pertinent art. The person of ordinary skill is not an automaton, and may be able to fit together the teachings of multiple prior art references employing ordinary creativity and the common sense that familiar items may have obvious uses beyond their primary purposes.

20. In establishing obviousness, one must avoid the temptation to read into the prior art the teachings of the invention in issue and guard against slipping into the use of hindsight. The prior art itself, and not the applicant's achievement, must establish the obviousness of the combination.

21. An invention is obvious if one of ordinary skill in the art, faced with the wide range of needs created by developments in the field, would have found it obvious to employ the solution tried by the applicant to meet such needs.

22. Patent claims must be construed the same way for infringement and invalidity analyses. For claim terms construed, I have adopted the Court's constructions. For claim terms not construed or proposed for construction, I am to understand them as one of ordinary skill in the art would understand them at the time the application for the patent was made, based on the specification. I am also informed that statements made by the applicant during prosecution may also be considered in understanding a claim term.

23. Corroboration is required to support a date of invention by alleged prior inventors. An inventor's testimony, standing alone, is insufficient to prove conception or reduction to

practice – some form of corroboration is required. Mere testimonial evidence by witnesses is not enough to meet the burden of proving invalidity by clear and convincing evidence. Corroboration is required for oral testimony regardless of the level of interest of the witness in the outcome of the Investigation.

24. In order to serve as a “printed publication,” a document must be generally available – that is, available to the public without restriction. It is my understanding that it is the dissemination and public accessibility of a document that controls the legal determination of whether or not that document was “published” and hence can serve as prior art to a patent.

25. A party asserting that a document is a “printed publication” must establish that the document was made accessible before the invention date of the patent at issue. It is also my understanding that documents that are housed within a company’s library to which access is restricted to only persons authorized by the company are not considered generally to have been available or to have been available without restriction. Accordingly, those documents are not considered to be “printed publications.”

26. An issued patent is presumed to be valid. The Respondents bear the burden to show by clear and convincing evidence that such patent is not valid. I am informed that when the examiner considered the asserted prior art and basis for the validity challenge during patent prosecution, that burden becomes particularly heavy.

27. A patent may only be found invalid for obviousness if the party seeking to invalidate the patent proves by clear and convincing evidence that the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious as the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. The question of obviousness is analyzed by looking

at four factors, all of which must be considered before reaching a conclusion: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective indicators of nonobviousness.

28. The party seeking to invalidate a patent on obviousness grounds must prove by clear and convincing evidence both: (1) that a person of ordinary skill would have had some reason or motivation to combine the teachings of the prior art references; and (2) that the person of ordinary skill would have had a reasonable expectation of success in doing so. Thus, it is insufficient for the purposes of proving obviousness to show only that each element of a patent claim was independently known in the prior art.

29. Obviousness must be determined as of the date of the invention (i.e., the effective filing date or priority date of the patent). Thus, in considering the reason or motivation to combine references, it is essential to avoid using hindsight. For example, the problem examined when considering obviousness is the general problem that confronted the inventor before the invention was made, not the specific problem solved by the invention. Defining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness. Further, an overly narrow statement of the problem can represent a form of hindsight, because often the inventive contribution lies in defining the problem in a new revelatory way. Similarly, an assertion that a person of ordinary skill could combine the references, rather than that they would have been motivated to do so, is an impermissible form of hindsight. Moreover, knowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references to reach the particular claimed method.

30. A flexible approach is required in analyzing the motivation of the person of ordinary skill to combine references. Such motivation may be found explicitly or implicitly in

market forces, design incentives, the interrelated teachings of multiple patents, any need or problem known in the field of endeavor at the time of the invention and addressed by the patent, as well as the background knowledge, creativity, and common sense of the person of ordinary skill.

31. An analysis of the motivation to combine should be explicit. Additionally, it must include articulated reasoning with rational underpinnings to support the conclusion of obviousness. Providing a full explanation of the motivation to combine the references and the reasonable expectation of success is a necessary component of the obviousness inquiry, as inventions in most, if not all, 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. However, conclusory statements fail to adequately explain to a layperson why a person of ordinary skill would have a motivation to combine the potential prior art references and therefore do not provide evidentiary value.

32. Common sense, common wisdom, and common knowledge may be used to support a motivation to combine, so long as the use of common sense in the analysis is explained with sufficient reasoning. However, common sense can only be used to supply a limitation missing from the prior art where the technology is unusually simple and straightforward.

33. Not all references may be considered for determining obviousness. A reference must be either in the field of the applicant's endeavor or be reasonably pertinent to the problem with which the inventor was concerned in order to be considered prior art under an obviousness inquiry.

B. Rebuttal to the Chatterjee Report Introduction

34. I do not agree, as alleged in ¶ 2 of the Chatterjee Report, that “the Asserted Patent is invalid pursuant to 35 U.S.C. §§ 102 and 103” as explained below.

C. The Level of Skill of One of Ordinary Skill in the Art

35. In ¶ 21, Dr. Chatterjee's report offers a characterization of the level of skill of one of ordinary skill in the art as someone with "a bachelor's degree in electrical engineering, computer engineering, computer science, or a similar discipline, as well as two or more years of relevant industry or research experience, including in distributed computing systems such as multimedia systems." I accept and adopt Dr. Chatterjee's definition of a person of ordinary skill in the art. I am a person of ordinary skill in the art under this definition.

V. BRIEF OVERVIEW OF THE UNDERLYING TECHNOLOGY

36. In ¶¶ 45-63, Dr. Chatterjee discusses the background of the technology of the Patent.

37. In ¶ 46, Dr. Chatterjee's report incorrectly asserts that "[a]t the time of the filing of the application for the '855 Patent, the ideas and concepts recited in the limitations of the Asserted Claims of the '855 Patent were already well known in the art." In making this assertion, Dr. Chatterjee's report points only to broad concepts such as "multiplexing content to a plurality of clients" and "the use of data compression and encryption, and enabling user control of content via remote control devices..." .

38. In ¶ 47, Dr. Chatterjee's report relies on *Communication Systems* by Simon Haykin, John Wiley & Sons (4th ed. 2001) ("Haykin") to claim that "the use of multiplexing techniques such as TDM and FDM to transmit various types of data, including video signals for television, was well known in the art prior to May 24, 2001." It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Haykin is not one of the three references Comcast chose.¹

¹ Dr. Chatterjee's report also fails to provide any evidence that Haykin was publicly available before the May 24, 2001 priority date for the '855 Patent.

VI. OVERVIEW OF THE '855 PATENT

39. In ¶¶ 64-96, Dr. Chatterjee's report provides his overview of the Patent. .

VII. OVERVIEW OF PRIOR ART REFERENCES

40. In ¶¶ 102-150, Dr. Chatterjee's report provides an overview of six prior art references: (1) U.S. Patent No. 8,601, 519 ("Hicks"); (2) HomeRF: Wireless Networking for the Connected Home ("Negus"); (3) U.S. Patent No. 5,708,961 ("Hylton"); (4) U.S. Patent 6,493,873 ("Williams"); (5) U.S. Patent No. 7,861,272 ("Russ"); and (6) U.S. Patent No. 5,677,905 ("Bigham"). I understand that on September 24, 2019, Comcast elected the first three prior art references—Hicks, Negus, and Hylton—alone or in combination, to remain in the case. I understand that Comcast is no longer asserting Williams, Russ, or Bigham as prior art to the '855 Patent.

41. Dr. Chatterjee's report's provides overviews of Hicks, Negus, and Hylton and each contain several inaccuracies.

A. The Hicks Reference

42. Hicks² was filed on December 28, 2000 which is approximately five months before the application that became the '855 patent was filed on May 24, 2001. The inventors were John Hicks and Rand Zimler both of AT&T. The Hicks patent application was not published before the '855 patent was filed. Based on the Hicks' patent specification, the inventors were well versed in a wide range of networking technology and standards available around the time of filing of the '855 patent. Additionally, AT&T as a company was heavily involved in the networking and telephony at the time.

43. In ¶ 106, Dr. Chatterjee's report asserts that "Hicks also explains that the system it teaches is flexible, and as new home networking standards emerge, the system of Hicks could

² COMC_1158ITC00029582-598.

implement those networking standards” and cites to Hicks at 3:31-35. But that portion of Hicks supports the application of Hicks only to specific technology improvements – specifically improvements to HomePNA and “wireless” technology. In fact, in the same paragraph, Hicks repeatedly lists four technologies alongside each other (HomePNA, HomeRF, IEEE 802.11, and Bluetooth) and explores how those technologies can be used to supplement the primary broadband network in a digital residential entertainment system. Hicks at 3:14-31. Then at 3:31-35, Hicks lists only one of those four technologies (HomePNA) as providing potential to one-day support entertainment quality audio-video. Hick’s omission of HomeRF from this category would lead a POSITA to conclude that HomeRF was not expected to handle entertainment quality audio-video in the future. And regardless, the citation at 3:31-35 refers to hopeful future improvements in the state of the art—not a solution provided or even suggested by Hicks.

44. In ¶ 107, Dr. Chatterjee’s report states “Hicks teaches that the multiplexed channels can be sent using a number of standards, such as MPEG.” But Dr. Chatterjee’s report does not point to anything in Hicks that supports transmitting multiplexed channels in any format other than MPEG.

B. The Negus Reference

45. Negus³ is an IEEE article published in 2000. The authors are Kevin Negus of Proxim, Inc., Adrian Stephens of Symbionics, Ltd., and Jim Lansford of Intel Corp. At the time of the publication of Negus, Mr. Negus was a PhD and the leader of Proxim’s HomeRF participation and the co-chair of the HomeRF technical committee. Mr. Stephens was a PhD the editor of the SWAP specification and led 802.11 and SWAP implementations. Mr. Lansford was a PhD, a wireless system architect at Intel, and the co-chair of the technical committee for the HomeRF Industry working group.

³ COMC_1158ITC00025686-93.

46. In ¶¶ 111-113, to the extent that Dr. Chatterjee's report is arguing that Negus teaches the use of time-division multiple access ("TDMA") technology to distribute video, that is incorrect. Negus teaches using TDMA in connection with only isochronous devices, which it limits to "voice devices." Negus at 21 ("Three kinds of devices can be in a SWAP network: ... Voice devices (isochronous data devices, also called I-nodes)"). Negus specifically provides that "isochronous CP devices should write a device driver that provides a TAPI interface. TAPI is a simple, generic set of objects, interfaces, and methods for establishing connections between devices; TAPI communicates with the CP via a TAPI service provider." Negus at 22. TAPI stands for Telephony Application Program Interface (introduced with Microsoft Windows) to allow access to telephony services from a PC (e.g., to initiate a phone call). Thus, a person of ordinary skill in the art would not have understood Negus to teach using TDMA in connection with distributing multimedia content, such as radio channels.

47. In ¶ 116, Dr. Chatterjee's report references U.S. PATENT NO 6,928,303 ("Sidon"). It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Sidon is not one of the three references Comcast chose and it was not charted in Comcast's invalidity contentions.

C. The Hylton Reference

48. Hylton⁴ is a U.S. patent that was filed on August 18, 1995. The inventors were Denny L. Hylton, Robert D. Farris, Stephen J. Flaherty, Richard G. Backus, Faye M. Smith, John Andrew Herhei, Raymond Ian Millet, Nolan Marcus Forness, and Charles H. Stier. They were all from Bell Atlantic. Bell Atlantic as a company was significantly involved in networking, telephony, and data transmission infrastructure at the time.

⁴ COMC_1158ITC00026996-7030.

D. Other References Cited by Dr. Chatterjee's Report

49. At ¶¶ 124-150, Dr. Chatterjee's Report discusses the Williams, Russ, and Bigham references. It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Williams, Russ, and Bigham are not any of the three references Comcast chose.

VIII. MOTIVATION TO COMBINE THE ASSERTED PRIOR ART REFERENCES

50. In ¶¶ 151-167, Dr. Chatterjee's report contends that a POSITA at the time of the filing of the '855 Patent would have been motivated to combine Hicks with Negus and Hicks with Hylton. I disagree with the reasoning in Dr. Chatterjee's report with respect to each combination. With respect to each alleged 103 combination in regard to each limitation of each asserted claim, the Chatterjee Report fails to identify clear and convincing evidence that a person of ordinary skill would have had some reason or motivation to combine the teachings of the prior art references as he suggests and the person of ordinary skill would have had a reasonable expectation of success in doing so.

A. Hicks Combined with Negus

51. Dr. Chatterjee's report does not provide a motivation to combine Hicks with Negus for any specific limitation of the '855 patent's asserted claims. Additionally, Dr. Chatterjee's report does not provide any reasonable likelihood that such a combination would be successful. Dr. Chatterjee's report discusses a modification of Hicks, modification of Negus, and then a combination of these two modifications. Dr. Chatterjee's report does not provide any opinion that one of skill in the art would be motivated to modify either Hicks or Negus, or to combine these modified systems to come up with the limitations of the asserted claims of the '855 patent. Further, Dr. Chatterjee's report does not provide that a POSITA would have a reasonable likelihood of success of modifying both of these references, and then combining

them, to come up with the specific limitations of the inventions of the '855 patent's asserted claims—in the five months between the filing date of Hicks and the filing date of the '855 patent. As discussed above, the Hicks reference was not public at the time of the filing of the '855 patent, and a POSITA would not be able to modify these two references and combine them in order to fill in the missing gaps in either the Hicks or Negus references. The Chatterjee Report incorrectly claims that “a POSITA would have been motivated to combine the network disclosed in Hicks with the HomeRF networking techniques disclosed in Negus because Hicks explicitly teaches the use of HomeRF.” Chatterjee Report, ¶ 153. Hicks already includes a HomeRF communication path. As discussed above, the inventors of the Hicks reference were well versed in the industry and are an excellent indication of what a POSITA would have done at that time. Dr. Chatterjee's report argues that the Hicks reference would have to be modified with a modified Negus reference and that these two items would have to be combined.

52. The Chatterjee Report also states that “a POSITA would find it obvious to modify Hicks, based on the knowledge of a POSITA at the time of the '855 patent filing. As explained above in my discussion of the state of the art, and throughout my report, the knowledge of a POSITA at the time of the '855 patent filing would include knowledge of the features and operation of HomeRF, and a POSITA would be motivated to apply that knowledge in view of the Hicks reference alone, to render the Asserted Claims obvious.” Chatterjee Report at fn. 10; *see also e.g.*, ¶ 221. The Chatterjee Report is essentially arguing that a POSITA would “know” HomeRF and therefore could modify Hicks even without Negus. I disagree. A POSITA would not have the complete “knowledge of the features and operation” of the HomeRF standard—a POSITA would know about HomeRF but would need the standard itself to design, engineer, and implement any design in which the technology was going to be implemented.

53. Because of the small five month window of time between the filing of the Hicks reference and the '855 patent application, a POSITA would not have arrived at the inventions of the asserted claims of the '855 patent by modifying the design in Hicks to incorporate the modified HomeRF system (of either Negus or a POSITA's knowledge of the HomeRF standard itself) before the filing date of the '855 patent application. They would have needed time to possess the invention even if one assumes they would have been motivated to explore the "finite number" of options as expressed in the Chatterjee report. The POSITA would be assumed to start with Hicks and HomeRF and then do this random experimentation. Dr. Chatterjee's report provides no analysis to support the notion that this could be done in less than five months—or that there would be any motivation to do so. Nor does his report provide any analysis as to whether there would be any reasonable likelihood of success in doing so. The only way a POSITA would be able to do such combination of modified systems would be by using the '855 patent as a guide. Hicks explicitly acknowledges that HomeRF would "principally be used for transmitting lower bandwidth multimedia content, such as audio content, as opposed to entertainment quality audio-video transmitted over the primary broadband data network." Hicks at 3:28-31. The inventors of the Hicks reference explicitly considered HomeRF for high-bandwidth data transfer and rejected it. A POSITA at the time of the invention would do so as well for the same reasons—low bandwidth, spotty reliability, cost to implement, etc.

54. Further, the Hicks reference is using off-the-shelf networks. Modifying an existing networking standard (HomeRF) is outside the scope of what the Hicks reference suggests. Such a modification is also not something a POSITA does in a short time period (e.g., a POSITA would not consider such a modification of Hicks in a five month period)—or without a compelling motivation. The Chatterjee Report does not provide such a motivation. It is also

likely that a company would modify HomeRF or Negus in the context of a group of companies pursuing a new standard, not something that is done in a short time period and without a compelling technical motivation..

55. That is particularly true with respect to HomeRF's use of TDMA. While HomeRF does describe the use of TDMA in the form of isochronous devices, those devices are limited to voice devices such as cordless telephones or wireless headsets. Negus at 21 ("Three kinds of devices can be in a SWAP network: ... Voice devices (isochronous data devices, also called I-nodes)"); Negus at 23 ("The MAC is designed for use with a frequency-hopping radio and includes a TDMA service to support the delivery of isochronous data (e.g. interactive voice), and a CSMA with collision avoidance (CSMA/CA) service derived from wireless LAN standards such as IEEE802.11 and OpenAir to support the delivery of asynchronous data."); Negus at 23 ("The access mechanism used during each CFP is TDMA, while the access mechanism used during the contention period is CSMA/CA. Each CFP is divided into a number of pairs of fixed-length slots, two per voice connection. The first slot in each pair is used to transmit voice data from the CP to a node (downlink), and the second is used to transmit voice data from a node to the CP (uplink).").

56. Additionally, Negus teaches that isochronous nodes automatically power off when not in an active connection state:

The procedure for power management of isochronous nodes is straightforward. In this process, during an active connection (e.g., a voice call) the isochronous nodes power on, initially only for the duration of the CPB, to receive slot assignment information. They then power down until their assigned slots are due. When not in an active connection state, isochronous nodes need only power-up every N dwells, where N is chosen by the system designer according to the application being supported, and as a compromise between power-saving and speed of response to a new connection.

Negus at 23.

57. A POSITA would further not be motivated to combine Hicks with Negus in the manner claimed by the '855 Patent because the goals of Hicks and Negus were different. The primary goal of Hicks was to provide consumers with a digital residential entertainment system that would allow for using a single broadband multimedia gateway (BMG) that could serve as both a multimedia gateway and content server, thus allowing consumers to only require a single enhanced digital set-top box within their home. Hicks at 1:47-2:45. Negus, in contrast, utilized a TDMA scheme for cordless phones to provide interoperability, mobility, and battery savings. Negus at 21 and 24. These concerns are much less important in the context of cable set-top boxes, where the set-top boxes are typically perpetually connected to a power outlet and a television within a consumer's home. Thus, a POSITA would not have had a motivation to combine Negus's TDMA scheme with the system described in Hicks.

58. I have reviewed Jim Williams' rebuttal report which also shows that a POSITA would not be motivated to combine Hicks with the knowledge of a POSITA or Negus.

B. Hicks Combined with Hylton

59. Dr. Chatterjee's report does not provide a motivation to combine Hicks with Hylton for any specific limitation of the '855 patent's asserted claims. Additionally, Dr. Chatterjee's report does not provide any reasonable likelihood that such a combination would be successful. Dr. Chatterjee's report discusses a modification of Hicks, modification of Hylton, and then a combination of these to modifications. Dr. Chatterjee's report does not provide any opinion that one of skill in the art would be motivated to modify either Hicks or Hylton, or to combine these modified systems to come up with the limitations of the asserted claims of the '855 patent. Further, Dr. Chatterjee's report does not provide that a POSITA would have a reasonable likelihood of success of modifying both of these references, and then combining them, to come up with the specific limitations of the inventions of the '855 patent's asserted

claims—in the five months between the filing date of Hicks and the filing date of the '855 patent. As discussed above, the Hicks reference was not public at the time of the filing of the '855 patent, and a POSITA would not be able to modify these two references and combine them in order to fill in the missing gaps in either the Hicks or Hylton references.

60. Hylton is cited on the face of the Hicks patent. I believe it is cited by the patentee, not the examiner. This would indicate that the inventors of the Hicks reference were aware of Hylton and didn't go that direction. This citation means that at least the inventors of the Hicks reference believed that Hicks and Hylton were related. Because of the small five month window of time between the filing of the Hicks reference and the '855 patent application, they would not have been able to create, design, engineer, and make something that would have modified the design in Hicks to combine the modified Hylton system. They would have needed time to possess the invention even if one assumes they would have been motivated to explore the “finite number” of options as expressed in the Chatterjee report. The POSITA would be assumed to start with Hicks and Hylton and then do this random experimentation. Dr. Chatterjee's report provides no analysis to support the notion that this would be done in less than five months—or that there would be any motivation to do so. Nor does his report provide any analysis as to whether there would be any reasonable likelihood of success in doing so. The only way a POSITA would be able to do such combination of modified systems would be by using the '855 patent as a guide.

61. As for the motivation to combine Hicks with Hylton, the Chatterjee Report does not actually put a combination of Hicks with the elements of Hylton to form a new system. Instead, using the '855 Patent claims as a roadmap, the Chatterjee Report indicates that it would have been obvious to modify the system of Hicks with, for example, “techniques related to the

identification, processing, and transmission of data packets in Hylton.” Chatterjee Report, ¶ 166. In addition to being a hindsight-based approach, this fails even to describe the resulting system.

62. Second, Hicks and Hylton are not complementary. The focus of Hicks is an in-home network. Hylton, in contrast, describes a particular TDM scheme that addresses communication with the cable TV infrastructure, not a dedicated in-home network. Hicks teaches the use of standard in-home networks. Dr. Chatterjee’s report indicates only one network (HomeRF) mentioned in Hicks as employing TDM and that particular network is a wireless network. This stands in contrast to the citations in ¶ 164 of the Chatterjee Report for Hylton:

- 3:27-45 — the TDM example here is DS3, a term used in the context of wired communication when the Hylton patent application was filed.
- 5:42-48 — this teaches receiving DS3 rate channels via TDM as discussed for 3:27-45. Further, this is describing what the shared processing system receives from the external network (rather than from an in-home client).
- 6:45-7:35 — this is not describing TDM. It instead discusses various forms of code division multiple access (CDMA) systems.
- Claim 5 — this addresses the embodiment described at 5:42-48, discussed above.

63. Further, for wireless communication, Hylton’s preferred embodiment is spread spectrum and, for this approach, Hylton does not teach a time-division based scheme. *See*, for example, Hylton at 6:36-57. Hylton teaches that such a wireless network is advantageous for on-premise distribution.

64. The Chatterjee Report also cites to a bus in the BMG of Hicks as being the shared bus of the Asserted Claims. The Chatterjee Report suggests, without explanation or description of the resulting system, that a POSITA would be motivated to modify this short-distance system bus based on Hylton’s teachings of long-range communication links. These are two very dissimilar systems; a POSITA designing a system bus would not look to Hylton’s long-range communication links.

65. Further, a POSITA would not combine Hicks with Hylton because Hicks already has a system that select channels. The Chatterjee Report provides no reason why Hicks would be modified by Hylton (other than hindsight).

66. A POSITA would not combine Hicks with Hylton because Hylton's Shared Processing System is quite different from the BMG of Hicks. For example, it uses only wireless transmission, it has a different internal architecture, and its wireless transmission is not low bandwidth nor is it TDMA (e.g., 3:18-26).

IX. THE ASSERTED CLAIMS OF THE '855 PATENT ARE NOT ANTICIPATED UNDER 35 U.S.C. § 102 AND NOT RENDERED OBVIOUS UNDER 35 U.S.C. § 103.

67. Having reviewed the Chatterjee Report and the references cited therein, it is my opinion that the Asserted Claims of the '855 Patent are not invalid. Specifically, I have concluded that the Asserted Claims are not:

- anticipated by Hicks;
- rendered obvious by Hicks in view of the knowledge of a POSITA;
- rendered obvious by Hicks in view of HomeRF;
- rendered obvious by Hicks in view of Hylton or
- rendered obvious by Hicks in view of any of the other references cited in the Chatterjee Report.

68. The Chatterjee Report does not provide a motivation to combine, or a reasonable likelihood of success in combining, any two references for any specific limitations of the '855 patent's asserted claims. And the Chatterjee Report does not provide any analysis of how a POSITA would be able to do so in the five month period between the filing of the Hicks reference and the '855 patent application. As discussed above, the inventors of Hicks were at

least POSITA—and they did not consider modifying their own invention to combine it with Negus, Hylton, or any of the other references discussed in the Chatterjee Report.

69. As discussed above, the Chatterjee Report does not analyze why Hicks would be modified by any of (a) the knowledge of a person of ordinary skill in the art; (b) the Negus reference; and/or (c) the Hylton reference to render any of the Asserted Claims’ limitations obvious. This is especially true because there is a lack of motivation to combine any of these references and there is no reasonable likelihood of success in combining these references in the time period between the filing of the Hicks reference and the filing of the ’855 patent application.

70. In ¶ 170, the Chatterjee Report Chatterjee asserts that Rovi does not dispute that Hicks discloses various limitations of the Asserted Claims. That is not correct. I understand that on August 23, 2019 Rovi served Invalidity Rebuttal Memorandums for 17 prior art references that Comcast claimed invalidated the ’855 patent. Those Invalidity Rebuttal Memorandums were served in response to invalidity contentions that Comcast served on August 2, 2019 which contained no analysis, discussion, or description of how the limitations of the Asserted Claims were allegedly met by any of the cited references. Having reviewed Comcast’s invalidity contention for Hicks, Rovi’s Invalidity Rebuttal Memorandum for Hicks, Dr. Chatterjee’s Report, and Hicks itself, Hicks does not disclose any of these limitations:

Claim 1

receiving a plurality of channel selection commands by:

receiving, from a plurality of clients, a plurality of channel selection requests; and

processing the plurality of channel selection requests to produce the plurality of channel selection commands

Claim 29

The tuning module of claim 28, wherein the bus interface module further comprises at least one of: decrypting module for decrypting each of the plurality of channel selection commands; and decompressing module for decompressing each of the plurality of channel selection commands.

Claim 53

memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

receiving, from a plurality of clients, a plurality of channel selection requests by monitoring shared bus at specific time intervals,

processing the plurality of channel selection requests to determine whether the request can supported, and, if so, producing a plurality of channel selection commands, wherein each of the plurality of channel selection commands includes an identity of one of the plurality of sources, and an identity of the channel;

selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection command to produce selected channels;

B. Claim 1 Is Not Anticipated By Hicks, Rendered Obvious By Hicks, Or Rendered Obvious By Hicks In View Of HomeRF

71. In ¶¶ 172-238, the Chatterjee Report concludes that Hicks invalidates claim 1 under 35 U.S.C. § 102 and 35 U.S.C. § 103, on its own and in combination with HomeRF/Negus and other references. I disagree for the reasons given below.

72. In ¶¶ 182-195, Dr. Chatterjee's report discusses limitation 1.B.1 "receiving a plurality of channel selection commands by: receiving, from a plurality of clients, a plurality of channel selection requests." The Chatterjee Report contends that this element is met by citing to several sections of Hicks, none of which disclose the claimed limitation:

- 4:21-5:3 — the infrared remote control signals are sent to the thin-client STB in this example. There is no evidence at this excerpt of what is sent from the thin-client STB to the BMG.
- 3:54-67 — this excerpt does not discuss any channel selection commands or channel selection requests.

- Figure 4; 12:38-51 — this excerpt and figure provide no information of the contents of any alleged command/request sent from the thin-client STB to the BMG.

73. The Chatterjee Report does not provide any analysis or opinion that the multimedia server or the system receives any signals that are “request(s) that identify a particular channel and at least one of the clients.” There is no disclosure in the Chatterjee Report of a channel selection request that identifies a particular channel and at least one of the clients.

74. The Chatterjee Report asserts that Negus meets this limitation based on the CFP transmissions at page 23 of Negus. There is no disclosure in Negus as to the contents of a channel selection request, and the CFP of Negus is for voice only.

75. Because the Chatterjee Report has not shown that Hicks or Negus disclose claim element 1.B.1, they also do not disclose claim element 1.B.2 (“receiving a plurality of channel selection commands by: ... processing the plurality of channel selection requests to produce the plurality of channel selection commands, wherein the each of the plurality of channel selection commands includes at least one of: last channel selection command, next channel selection command, previous channel selection command, favorite channel selection command, and select channel from user define list;”) (Chatterjee Report, ¶¶ 196-211) because the antecedent basis for “the plurality of channel selection commands” has not been satisfied.

76. The Chatterjee Report states that the MODSP pay-per view service of Hicks is a user defined list. I disagree. As discussed in Hicks, the multi-media on demand device “can automatically receive multimedia content items from a MODSP [multi-media service provider], where the MODSP downloads a plurality of multimedia content items without a user selecting or requesting the downloading of a particular multimedia content item.” Hicks at 13:11-15; 13:16-56.

77. ¶¶In ¶¶ 212-230, the Chatterjee Report discusses limitation 1.B.3 “receiving a plurality of channel selection commands by: ... wherein the receiving the plurality of channel selection commands further includes monitoring a shared bus at specific time intervals, identifying a data frame at one of the specific time intervals that contains at least a portion of one or the plurality of channel selection commands, and decoding, based on a data conveyance protocol of the multimedia system, the data frame to recapture the at least a portion of the one of the plurality of channel selection commands.” This limitation is neither taught nor suggested by Hicks or Negus.

78. First, neither Hicks nor Negus teaches monitoring a shared bus at specific time intervals as part of receiving channel selection commands. The Chatterjee Report states that Hicks teaches the monitoring of a shared bus through its citation to Negus. But HomeRF/Negus does not teach the receiving of channel selection commands includes monitoring a shared bus at specific time intervals. Instead it teaches the use of TDMA in the form of isochronous devices. But those devices are limited to voice devices such as cordless telephones or wireless headsets. Negus at 21 (“Three kinds of devices can be in a SWAP network: ... Voice devices (isochronous data devices, also called I-nodes)”); Negus at 23 (“The MAC is designed for use with a frequency-hopping radio and includes a TDMA service to support the delivery of isochronous data (e.g. interactive voice), and a CSMA with collision avoidance (CSMA/CA) service derived from wireless LAN standards such as IEEE802.11 and OpenAir to support the delivery of asynchronous data.”); Negus at 23 (“The access mechanism used during each CFP is TDMA, while the access mechanism used during the contention period is CSMA/CA. Each CFP is divided into a number of pairs of fixed-length slots, two per voice connection. The first slot in each pair is used to transmit voice data from the CP to a node (downlink), and the second is used

to transmit voice data from a node to the CP (uplink).”). Nothing in Negus (or Hicks) describes how channel selection commands are transmitted (if at all) in this context.

79. I also understand that Rovi has agreed to Comcast’s proposed construction for “shared bus” as “bus within a multimedia server.” The Chatterjee Report at ¶¶227-230, 235 states that: “the processor sends a channel selection command to the tuner along a ‘system bus’,” “the BMG will send a ‘channel selection command’ to its internal processor,” “A POSITA would understand that because the processor and the tuner/demodulator are directly connected by the bus (Hicks Fig. 6, showing the ‘system data bus’), the tuner/demodulator could identify the ‘channel selection commands[,]” and “Fig. 6 of Hicks details the system bus of the BMG, which is used by the processor to transmit channel selection commands which the tuner will use to select the channels requested by the plurality of client devices.” There is no analysis of how Hicks or Negus monitors a shared bus at specific time intervals.

80. In ¶ 223, the Chatterjee Report relies on HomeRF’s use of timeslots for voice transmissions to meet the “identify a data frame at one of the specific time intervals that contains at least a portion of one or the plurality of channel selection commands” limitation. I disagree for at least the following reasons. First, as discussed above, there is no reason why a POSITA would understand Negus to teach using isochronous transmissions for anything other than voice transmission. Second, Negus appears to teach that the maximum speed of data in the TDMA connection in HomeRF is 32kbit/s. That would be too low for any type of reasonable Web interface, let alone transmission of audio/video data. In addition, the data is sent in DECT-like packets encoded as ADPCM, which is a format focused on encoding speech rather than, for example, web data or music. Negus at 23.

81. In ¶ 224, the Chatterjee Report relies on physical layer encoding/decoding to satisfy the 1.B.3 claim element “decoding based on a data conveyance protocol of the multimedia system, the data frame to recapture the at least a portion of the one of the plurality of channel selection commands.” But the cited portion of Negus (pg. 26) does not provide any evidence that channel selection commands are encoded/decoded in this manner. In addition, there is no evidence that this decoding would take place after the “identifying” step, as would be required under Comcast’s proposed claim construction.

82. In order to overcome that problem, the Chatterjee Report tries to claim that “the tuner/demodulator could use the control signals on the bus, as taught in the Write command of the PCI-Bus specification, to ‘determin[e] without decoding, that the [frame/packet] at one of the specific time intervals contains at least a portion of a channel selection [command/request].” Chatterjee Report, ¶ 130. It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that the PCI Bus references are not any of the three references Comcast chose. The Write command of the PCI-Bus specification would not provide the address of any client — it would provide the address of an entity on the system bus. This write command does not meet the “monitoring a shared bus as specific time intervals,” and it does not identify that a data frame/packet is a channel selection request or command. The Chatterjee Report admits that these references do not teach this by stating that it is only possible: “For example, the tuner/demodulator could use the control signals on the bus, as taught in the Write command of the PCI-Bus specification.” Chatterjee Report, ¶ 230.

83. As discussed above, the Chatterjee Report relies on modifications to Hicks and then combinations with other references to meet the claims of the ’855 patent. The Chatterjee Report states “A POSITA would be motivated to modify Hicks to implement bus functionality as

discussed in the PCI specification.” Chatterjee Report, ¶ 230. While a POSITA would have known of the existence of the PCI bus specification, a POSITA would not know of the implementation, requirements, and everything in the specification of PCI Bus. That knowledge would have been beyond that of a POSITA. And, even if a POSITA had complete knowledge of both the Hicks system and the PCI Bus specification, a POSITA would not have been able to modify the Hicks system to implement a completely new bus system in the circuit hardware and software of Hicks within the five month time period between the filing of Hicks and the filing of the ’855 patent application. Such a modification of Hicks would have taken an engineering team and more than five months.

84. The Chatterjee Report does not identify the data conveyance protocol of this limitation, much less discuss how it is used to decode anything to recapture a channel selection request or command. The Chatterjee Report in ¶ 224 states “HomeRF employs physical layer encoding that would need to be decoded in order to obtain the contents of the frame” and cites to SWAP, IEEE 802.11FH, and OpenAir.

85. Because the Chatterjee Report has not shown that Hicks or Negus disclose claim elements 1.B.1, 1.B.2, or 1.B.3, they also do not disclose claim element 1.C (“selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection commands to produce selected channels; and”) (Chatterjee Report, ¶¶ 231-235) because the antecedent basis for “the plurality of channel selection commands” is not satisfied.

86. I note that the Chatterjee Report at ¶ 233 cites to Hicks discussion of a broadband data network to distribute multimedia and distinguishing that from lower bandwidth data networking technologies such as HomeRF.

87. The same is true for claim element 1.D “encoding each of the selected channels based on the data conveyance protocol of the multimedia system to produce a set of encoded channel data.” The Chatterjee Report has not shown that Hicks or Negus disclose claim elements 1.B.1, 1.B.2, 1.B.3 or 1.C, and so the antecedent basis for “the selected channels” is not satisfied. Without satisfying this antecedent basis, Hicks cannot teach the “encoding of each of the selected channels” because it does not teach “the selected channels” themselves. In addition, the Chatterjee Report does not provide clear and convincing evidence that Hicks or Negus teach encoding selected channels based on the data conveyance protocol.

88. The Chatterjee Report at ¶ 236 does not identify the data conveyance protocol of this limitation, much less discuss how it is used to encode anything. There is no analysis of what the data conveyance protocol is, or how it would be used to encode the transmission. The Chatterjee Report appears to argue that Ethernet or the shared bus may be used to encode the selected channels, but it provides no explanation. Further, the Report appears to argue that an analog to digital converter could perform the encoding. But an ADC would not encode anything based on a data conveyance protocol—it would merely convert information from analog to digital format—e.g., the ADC could convert an RF analog signal into 1s and 0s.

89. The Chatterjee Report at ¶ 237 does not identify the data conveyance protocol of this limitation, much less discuss how it is used to encode anything. The Chatterjee Report states that “transmission of video over the HomeRF medium will involve encoding as dictated by the HomeRF Standard.” There is no analysis of what the data conveyance protocol is, or how it would be used to encode the transmission.

90. The parties have agreed that shared bus should be construed as “bus within a multimedia server.” This construction eliminates HomeRF as the shared bus because it is not a

bus within a multimedia server. The only other potential shared bus disclosed by the Chatterjee Report is the “system bus” of Hicks. This means that the data conveyance protocol for channel selection requests cannot be HomeRF because any HomeRF decoding would take place prior to any “monitoring” of the shared bus (i.e., the system bus). If the data conveyance protocol isn’t HomeRF for decoding the “channel selection requests”, it can’t be the data conveyance protocol for encoding either.

91. Therefore, the Chatterjee Report has not shown that claim 1 is anticipated, or rendered obvious by, Hicks, or rendered obvious by Hicks in view of Negus.

C. Claim 1 Is Not Rendered Obvious By Hicks In View Of Hylton

92. In ¶¶ 239-263, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 1 under 35 U.S.C. § 103.

93. For claim elements 1.P, 1.A, 1.B.1, and 1.C, the Chatterjee Report relies solely on Hicks. For the reasons set forth above, Hicks does not teach these elements of claim 1. And because the Chatterjee Report has not shown that Hicks discloses claim element 1.B.1, it also does not disclose claim element 1.B.2 (“receiving a plurality of channel selection commands by: ... processing the plurality of channel selection requests to produce the plurality of channel selection commands, wherein the each of the plurality of channel selection commands includes at least one of: last channel selection command, next channel selection command, previous channel selection command, favorite channel selection command, and select channel from user define list;”), even in combination with Hylton (Chatterjee Report, ¶¶ 244-249) because the antecedent basis for “the plurality of channel selection commands” is not satisfied.

94. For claim element 1.B.3 (“receiving a plurality of channel selection commands by: ... wherein the receiving the plurality of channel selection commands further includes monitoring a shared bus at specific time intervals, identifying a data frame at one of the specific

time intervals that contains at least a portion of one or the plurality of channel selection commands, and decoding, based on a data conveyance protocol of the multimedia system, the data frame to recapture the at least a portion of the one of the plurality of channel selection commands”), the Chatterjee Report relies on Hylton’s disclosures of selection signals from a user’s remote control. Chatterjee Report, ¶¶ 259-260. This portion of Hylton is describing sending the channel selection to the HDT (via the ONU) – both of which are part of the cable infrastructure. This does not involve the shared processing system of Hylton because this portion of Hylton is for wired communication. It is, therefore, outside of the preamble (as construed). Hylton is a very different system than Hicks: it is a very different communication mechanism (not the system bus, not HomeRF, and not the “main” communication path of Hicks).

95. Even if one considers the HDT to be relevant/equivalent to the BMG of Hicks (which isn’t remotely true), the HDT does not receive the selection signals in time slots because those time slots are only used on the way to the ONU. This means that the HDT can’t be doing any identifying based on the time slots. The ONU, on the other hand, has no interest in the selection signals and just passes them along to the HDT (no decoding).

96. In the cited section of Hylton, 37:6-18, Hylton teaches sending channel selection data upstream from active set-top boxes (100 and 100*b*) to ONU 532 at assigned signaling time slots (assigned by the HDT). But ONU 532 simply passes the channel selection data along to the HDT without processing. [Thus the ONU does not “identify[] a data frame at one of the specific time intervals that contains at least a portion of one [of] the plurality of channel selection commands.”

97. Therefore, the Chatterjee Report has not shown that claim 1 is rendered obvious by Hicks in view of Hylton.

D. Claim 14 Is Not Invalid As Anticipated Or Rendered Obvious By Hicks

98. In ¶¶ 264-272, the Chatterjee Report attempts to show that Hicks invalidates claim 14 under 35 U.S.C. § 102 and/or 35 U.S.C. § 103 on its own. Claim 14 depends from claim 1. Because the Chatterjee Report has not shown that parent claim 1 is invalid, it cannot show that dependent claim 14 is invalid.

99. There is no explicit disclosure of encryption prior to encoding in Hicks within a multimedia server. While Hicks at 9:1-21 discussed encryption, it discusses that the information signal received by the BMG can be encrypted. Because the encoding of claim 14 must be the encoding of claim 1, the encryption must be performed by the multimedia server. Hicks does not disclose that the BMG performs encryption prior to encoding.

100. The Chatterjee Report attempts to combine Hicks with Williams at paragraph 268. It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Williams is not one of the three references Comcast chose.

101. The Chatterjee Report at paragraph 270 relies on the combination of Hicks and Negus to show encryption prior to encoding. However, there is no analysis of how these references would need to be modified, how they would be combined, a motivation to combine them to show this limitation, or a reasonable likelihood of success.

102. The Chatterjee Report also states that a POSITA would know to use encryption and that encryption would be used before encoding because it is one of a finite number of possibilities. However, there is no analysis of why a POSITA would want to encrypt prior to encoding.

103. Therefore, the Chatterjee Report has not shown that claim 14 is anticipated, or rendered obvious by, Hicks.

E. Claim 14 Is Not Invalid As Rendered Obvious By Hicks In View of HomeRF

104. In ¶¶ 273-278, the Chatterjee Report attempts to show that Hicks in view of HomeRF/Negus invalidates claim 14 under 35 U.S.C. § 103. Claim 14 depends from claim 1. Because the Chatterjee Report has not shown that parent claim 1 is invalid, it cannot show that dependent claim 14 is invalid.

105. The Chatterjee Report attempts to combine Hicks with Tanenbaum or Williams at paragraph 278. It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Tanenbaum or Williams are not the three references Comcast chose.

106. There is no explicit disclosure of encryption prior to encoding in Hicks.

107. Therefore, the Chatterjee Report has not shown that claim 14 is rendered obvious by Hicks in view of Negus.

F. Claim 14 Is Not Invalid As Rendered Obvious By Hicks In View Of Hylton

108. In ¶¶ 279-286, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 14 under 35 U.S.C. § 103. Claim 14 depends from claim 1. Because the Chatterjee Report has not shown that parent claim 1 is invalid, it cannot show that dependent claim 14 is invalid.

109. There is no explicit disclosure of encryption prior to encoding in Hicks.

110. As discussed above, there is no analysis of why a POSITA would know to encrypt before encoding.

111. The Chatterjee Report combines Hicks, Hylton, and Negus at paragraph 285, but there is no analysis of how they would be combined, a motivation to combine all three, or a

reasonable likelihood of success—much less in the five month period between the filing date of Hicks and the filing date of the '855 patent application.

112. The Chatterjee Report attempts to combine Hicks with Tanenbaum or Williams at paragraph 286. It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Tanenbaum or Williams are not the three references Comcast chose.

113. Therefore, the Chatterjee Report has not shown that claim 14 is rendered obvious by Hicks in view of Hylton.

G. Claim 28 Is Not Invalid As Anticipated By Hicks, Rendered Obvious By Hicks, Or Rendered Obvious By Hicks In View Of HomeRF

114. In ¶¶ 287-317, the Chatterjee Report attempts to show that Hicks invalidates claim 28 under 35 U.S.C. § 102 and 35 U.S.C. § 103, on its own and in combination with HomeRF/Negus. For the same reasons as set forth above for the corresponding limitations of claim 1, Hicks and Negus do not teach the elements of claim 28.

115. In ¶ 299, the Chatterjee Report points to an ADC as an encoding module. But an ADC would not encode anything based on a data conveyance protocol—it would merely convert information from analog to digital format—i.e., the ADC would convert an RF analog signal into 1s and 0s.

116. In ¶ 300, the Chatterjee Report states “the HomeRF medium will involve encoding as dictated by the HomeRF standard.” The Chatterjee Report does not specify how Hicks would need to be modified to work with Negus such that video data could be transmitted via HomeRF.

117. In ¶ 303, the Chatterjee Report states that the HomeRF module of Hicks will prepare data for transmission onto the local area network or that in Hicks, the bus interface module will include components that prepare the video selected by the tuner and output to the

bus of the BMG. The Chatterjee report provides no analysis of a data conveyance protocol that is used.

118. In ¶ 315, the Chatterjee Report states that “the ‘shared bus’ can be the bus internal to the BMG as taught by Hicks” but provides no other analysis.

119. In ¶ 316, the Chatterjee Report states that “the ‘channel selection command’ transmitted using a protocol such as HomeRF will be contained in a packet, and the contents of that packet will be transmitted by the internal bus.” The report provides no other analysis of how the shared bus is monitored at specific time intervals or how the limitation “identify at least one of the packets at one of the specific time intervals, that contains at least a portion of one of the plurality of channel selection commands to produce an identified packet” is met.

120. Therefore, the Chatterjee Report has not shown that claim 28 is anticipated, or rendered obvious by, Hicks, or rendered obvious by Hicks in view of Negus.

H. Claim 28 Is Not Invalid As Rendered Obvious By Hicks In View Of Hylton

121. In ¶¶ 318-352, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 28 under 35 U.S.C. § 103. For the same reasons as set forth above for the corresponding limitations of claim 1, Hicks and Hylton do not teach the elements of claim 28.

122. Therefore, the Chatterjee Report has not shown that claim 28 is rendered obvious by Hicks in view of Hylton.

I. Claim 29 Is Not Invalid As Anticipated By Hicks, Rendered Obvious By Hicks, Or Rendered Obvious By Hicks In View Of HomeRF

123. In ¶¶ 353-360, the Chatterjee Report attempts to show that Hicks invalidates claim 29 under 35 U.S.C. § 102 and 35 U.S.C. § 103, on its own and in combination with

HomeRF/Negus. Claim 29 depends from claim 28. Because the Chatterjee Report has not shown that parent claim 28 is invalid, it cannot show that dependent claim 29 is invalid.

124. Therefore, the Chatterjee Report has not shown that claim 29 is anticipated, or rendered obvious by, Hicks, or rendered obvious by Hicks in view of Negus.

J. Claim 29 Is Not Invalid As Rendered Obvious By Hicks In View Of Hylton

125. In ¶¶ 361-367, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 29 under 35 U.S.C. § 103. Claim 29 depends from claim 28. Because the Chatterjee Report has not shown that parent claim 28 is invalid, it cannot show that dependent claim 29 is invalid.

126. At ¶ 365, the Chatterjee Report relies on a combination of Williams with Hicks and Hylton. It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Williams is not one of the three references Comcast chose.

127. Additionally, for decryption and decompression of channel selection commands, the Chatterjee Report points to Hylton's TIM and NIM devices. Chatterjee Report, ¶ 364. While these devices contain a decryption module, it is a decryption module used to decrypt an incoming program; it is not used to decrypt a channel selection command or a channel selection request. Similarly, the same citations mention decompression circuitry on the DET, yet this decryption is of the MPEG program, not a channel selection command or a channel selection request.

128. The Chatterjee Report emphasizes the preferred inclusion of the decryption module in the shared processing system. This module, however, is not used to decrypt channel selection commands.

129. Therefore, the Chatterjee Report has not shown that claim 29 is rendered obvious by Hicks in view of Hylton.

K. Claim 53 Is Not Invalid As Anticipated By Hicks, Rendered Obvious By Hicks, Or Rendered Obvious By Hicks In View Of HomeRF

130. In ¶¶ 412-426, the Chatterjee Report attempts to show that Hicks invalidates claim 53 under 35 U.S.C. § 102 and 35 U.S.C. § 103, on its own and in combination with HomeRF/Negus. For the same reasons as set forth above with respect to limitations 1.P, 1.A, 1.B.1, 1.B.2, 1.B.3, 1.C, and 1.D, Hicks and Negus do not disclose the limitations of claim 53.

131. In addition, in ¶¶ 420-422, the Chatterjee Report states that Hicks satisfies claim limitation 53.B.4 (“processing the plurality of channel selection requests to determine whether the request can supported, and, if so, producing a plurality of channel selection commands, wherein each of the plurality of channel selection commands includes an identity of one of the plurality of sources, and an identity of the channel;”) but it does not identify anything within Hicks that meets the limitation for including “an identity of one of the plurality of sources.” In fact, nothing within Hicks (or Negus) teaches producing a channel selection command that includes an identity of a source or an identity of a channel.

132. In ¶¶ 423-424, the Chatterjee report states that the BMG in Hicks will determine “whether the request can [be] supported, and if so, produc[e] a plurality of channel selection commands” by using conditional access to determine whether to tune to the appropriate channel. But the Chatterjee Report does not identify anything in Hicks (or Negus) that teaches a determination of whether channel selection requests can be supported, producing a plurality of channel selection commands, or channel selection commands that identify the channel and the source.

133. The Chatterjee Report at ¶ 423 states that Conditional Access is taught by Hicks and that it meets the determining whether the request can be supported limitation. The Chatterjee Report at ¶¶ 424 states that pay per view is taught by Hicks and that it meets the determining

whether the request can be supported limitation. I disagree. The Chatterjee Report doesn't teach doing any of the "conditional access" or "pay per view" for (a) a channel selection request and (b) in any way that respects the antecedent bases for this claim element.

134. Therefore, the Chatterjee Report has not shown that claim 53 is anticipated, or rendered obvious by, Hicks, or rendered obvious by Hicks in view of Negus.

L. Claim 53 Is Not Invalid As Rendered Obvious By Hicks In View Of Hylton

135. In ¶¶ 427-436, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 53 under 35 U.S.C. § 103. For the same reasons as set forth above with respect to limitations 1.P, 1.A, 1.B.1, 1.B.2, 1.B.3, 1.C, and 1.D, Hicks and Hylton do not disclose the limitations of claim 53.

136. Therefore, the Chatterjee Report has not shown that claim 53 is rendered obvious by Hicks in view of Hylton.

M. Claim 59 Is Not Invalid As Anticipated By Hicks, Rendered Obvious By Hicks, Or Rendered Obvious By Hicks In View Of HomeRF

137. In ¶¶ 437-443, the Chatterjee Report attempts to show that Hicks invalidates claim 59 under 35 U.S.C. § 102 and 35 U.S.C. § 103, on its own and in combination with HomeRF/Negus. Claim 59 depends from claim 53. Because the Chatterjee Report has not shown that parent claim 53 is invalid, it cannot show that dependent claim 59 is invalid.

138. The Chatterjee Report at ¶¶ 439 states that "Hicks teaches encoding audio channels and video channels in the MPEG format. A POSITA at the time of the '855 patent filing would understand that MPEG audio/video would consist of frames with a header and a payload. [Watkinson at §§ 6.3-6.5.]" It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Watkinson is not one of the three references Comcast chose. While there is discussion of MPEG in Hicks, the Chatterjee Report is incorrect

that MPEG could be the encoding used for this limitation because there is no analysis in the Chatterjee Report of using MPEG as the data conveyance protocol for decoding channel selection requests that include an identification of a channel and a client.

139. The Chatterjee Report also states “HomeRF teaches a standard MPEG stream can contain information detailing a selected channel (e.g., PID).” Chatterjee does not cite anything for as support for this statement. Also, the Chatterjee Report is incorrect that MPEG could be the encoding used for this limitation because there is no analysis in the Chatterjee Report of using MPEG as the data conveyance protocol for decoding channel selection requests that include an identification of a channel and a client. A POSITA may have knowledge of MPEG videos, but a POSITA would not have complete knowledge of the MPEG standard, how it is implemented, and how to modify Hicks to incorporate the MPEG standard to meet this limitation. This would be hindsight bias.

140. The Chatterjee Report at ¶ 440 states that “Hicks teaches that multimedia (audio or video) can be transmitted in MPEG frames. A POSITA would understand that MPEG frames provide the PID, which identifies the selected channel, in the header. [See supra V.B; Watkinson at §§ 6.3-6.5.]” It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Watkinson is not one of the three references Comcast chose. While there is discussion of MPEG in Hicks, the Chatterjee Report is incorrect that MPEG could be the encoding used for this limitation because there is no analysis in the Chatterjee Report of using MPEG as the data conveyance protocol for decoding channel selection requests that include an identification of a channel and a client.

141. The Chatterjee Report at ¶ 440 states that “audio transmitted by MPEG will include information such as compression enable/disable and the type of compression in its

header. [See Haskell at 69-71.]” It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Haskell is not one of the three references Comcast chose. While there is discussion of MPEG in Hicks, the Chatterjee Report is incorrect that MPEG could be the encoding used for this limitation because there is no analysis in the Chatterjee Report of using MPEG as the data conveyance protocol for decoding channel selection requests that include an identification of a channel and a client. Given that HomeRF already has a means for representing audio (not MPEG), there is no reason to turn to MPEG.

142. The Chatterjee Report at ¶ 441 states that “Hicks teaches that video content should be encrypted to maintain security, using techniques such as conditional access. This includes the ability to convert between two different conditional access formats. A POSITA would understand that a well-known manner to perform encryption requires that the header of transmitted data indicates that encryption is enabled, so that the receiving end knows that the payload must be decrypted. [Tanenbaum at 443-446.]” It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Tanenbaum is not one of the three references Comcast chose. While there is discussion of encryption in Hicks, the Chatterjee Report is incorrect that MPEG could be the encoding used for this limitation because there is no analysis in the Chatterjee Report of using MPEG as the data conveyance protocol for decoding channel selection requests that include an identification of a channel and a client.

143. The Chatterjee Report at ¶ 442 states that “Hicks teaches that data can be communicated from the multimedia server (BMG) over HomeRF. HomeRF can provide encryption at the MAC layer. [Negus at 23.] HomeRF also includes the capability to encrypt data prior to transmission, and decrypt data upon receipt. [Negus at 23 (‘Data security – none/basic/robust levels of encryption’.)] A POSITA would understand that a well-known

technique for implementing encryption is to indicate whether the encryption is enabled in the header, so that the receiving end knows that the payload must be decrypted. [Tanenbaum at 443-446.]” It is my understanding that the ALJ required Comcast to narrow the prior art it was relying on and that Tanenbaum is not one of the three references Comcast chose. While there is discussion of encryption in Hicks, the Chatterjee Report is incorrect that the MAC layer of HomeRF could be used for decoding of the channel selection requests or encoding of the selected channels.

144. Therefore, the Chatterjee Report has not shown that claim 59 is anticipated, or rendered obvious by, Hicks, or rendered obvious by Hicks in view of Negus.

N. Claim 59 Is Not Invalid As Rendered Obvious By Hicks In View Of Hylton

145. In ¶¶ 444-447, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 59 under 35 U.S.C. § 103. Claim 59 depends from claim 53. Because the Chatterjee Report has not shown that parent claim 53 is invalid, it cannot show that dependent claim 59 is invalid.

146. The Chatterjee Report at ¶ 447 states that Hylton teaches the encoding of data for transmission on the premises network. Even assuming this is true, Hylton does not teach decoding channel selection requests based on the premises network. The Chatterjee Report cites to Hylton for MPEG, but again, there is no analysis or reason to use MPEG for decoding the channel selection requests and encoding the selected channel. If the Chatterjee Report is relying on MPEG, which is used to send video in these references, then sending MPEG video via HomeRF (e.g., for TDMA) is in conflict.

147. Therefore, the Chatterjee Report has not shown that claim 59 is rendered obvious by Hicks in view of Hylton.

O. Claim 60 Is Not Invalid As Anticipated By Hicks, Rendered Obvious By Hicks, Or Rendered Obvious By Hicks In View Of HomeRF

148. In ¶¶ 448-451, the Chatterjee Report attempts to show that Hicks invalidates claim 60 under 35 U.S.C. § 102 and 35 U.S.C. § 103, on its own and in combination with HomeRF/Negus. Claim 60 depends from claim 59, which depends from claim 53. Because the Chatterjee Report has not shown that parent claims 53 or 59 are invalid, it cannot show that dependent claim 60 is invalid.

149. Additionally, at ¶ 450, the Chatterjee report relies on Hicks at 6:32-42 to argue that Hicks discloses time division multiplexing and frequency division multiplexing as recited in claim 60. But that section of Hicks is describing signals that are coming from “outside” (e.g., CATV), not signals that are created by box 100 and transmitted within the home. Hicks (and Negus) do not disclose conveying the frame of claim 60 in accordance with at least one of a time division multiplexing data conveyance protocol or a frequency division multiplexing data conveyance protocol.

150. The Chatterjee Report at ¶¶ 451-52 only cites to Negus to meet this limitation, but Negus only discusses TDMA as being used for “interactive voice transactions [which] are circuit-switched.” There is no discussion of FDMA.

151. Therefore, the Chatterjee Report has not shown that claim 60 is anticipated, or rendered obvious by, Hicks, or rendered obvious by Hicks in view of Negus.

P. Claim 60 Is Not Invalid As Rendered Obvious By Hicks In View Of Hylton

152. In ¶¶ 452-457, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 60 under 35 U.S.C. § 103. Claim 60 depends from claim 59, which depends from claim 53. Because the Chatterjee Report has not shown that parent claims 53 or 59 are invalid, it cannot show that dependent claim 60 is invalid.

153. The Chatterjee Report at ¶ 455-57 state “Hylton discloses time division multiplexing,” but the citations from Hylton in the report are for multiplexing of channels that are received by the gateway device from the cloud or backend—not multiplexing channels going to the client devices. There is no discussion of TDMA used to convey the frame.

154. The Chatterjee Report also states that “Hicks can be modified to operate similar to the shared processing system of Hylton” but it provides no analysis whatsoever of a motivation to do so, a reasonable likelihood of success, how one would go about performing such a modification, or how a POSITA would be able to make such a modification in the five month window between the filing of the Hicks patent application and the ’855 patent application.

155. Therefore, the Chatterjee Report has not shown that claim 60 is rendered obvious by Hicks in view of Hylton.

Q. Claim 63 Is Not Invalid As Anticipated By Hicks, Rendered Obvious By Hicks, Or Rendered Obvious By Hicks In View Of HomeRF

156. In ¶¶ 458-460, the Chatterjee Report attempts to show that Hicks invalidates claim 63 under 35 U.S.C. § 102 and 35 U.S.C. § 103, on its own and in combination with HomeRF/Negus. Claim 63 depends from claim 53. Because the Chatterjee Report has not shown that parent claim 53 is invalid, it cannot show that dependent claim 63 is invalid.

157. Therefore, the Chatterjee Report has not shown that claim 63 is anticipated, or rendered obvious by, Hicks, or rendered obvious by Hicks in view of Negus.

R. Claim 63 Is Not Invalid As Rendered Obvious By Hicks In View Of Hylton

158. In ¶¶ 461-463, the Chatterjee Report attempts to show that Hicks in view of Hylton invalidates claim 63 under 35 U.S.C. § 103. Claim 63 depends from claim 53. Because the Chatterjee Report has not shown that parent claim 53 is invalid, it cannot show that dependent claim 63 is invalid.

159. Therefore, the Chatterjee Report has not shown that claim 63 is rendered obvious by Hicks in view of Hylton.

X. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

160. In ¶¶ 464-482, the Chatterjee Report discusses the supposed lack of secondary considerations of non-obviousness. I understand that secondary considerations of non-obviousness are only relevant if an initial showing of obviousness has been made. Because the Chatterjee Report has not made such a showing, there is no need to rebut its opinions concerning secondary considerations of non-obviousness.

161. However, to the extent that it is deemed that an initial showing of obviousness has been made, I will address secondary considerations of non-obviousness.

162. In ¶ 464, Dr. Chatterjee's report states that he is "unaware of Rovi identifying any particular secondary considerations of non-obviousness that have any nexus to the Asserted Claims of the '855 Patent," citing Rovi's Supplemental Response to Interrogatory No. 64. However, that response states:

By way of example, the '855 patent fulfilled a long-felt need for a cost-effective multimedia system that supports channel selection over a home network. For in-home internet access, each computer or Internet device must have its own modem or a local area network may be used to provide internet access. Because in-home local area networks are used to facilitate a plurality of devices, channel selection is not supported by the in-home local area network without having the home specifically designed to support an in-home LAN that transceives entertainment type data. '855 patent at 2:34-44. The inventions of the '855 patent created a method and apparatus for a communication system that solves these problems and offers additional services within homes.

163. The inventions of the '855 patent solved this need by providing methods and systems for multiplexing selected channels to a plurality of client devices using TDMA, by encrypting before encoding, using a decrypting or decoding module, and/or encoding by framing the selected channels. The decoding and encoding is done with the same data conveyance protocol. The '855 patent uses a TDMA, which can be used with then existing communication

mediums such as coax, to meet these needs. None of the prior art or prior art combinations in the Chatterjee Report solve these problems because of the missing limitations discussed above. HomeRF was a commercial standard, promulgated by many companies in the industry but, despite this, HomeRF failed. There is no evidence in the record that Hicks or Hylton resulted in a commercial system. Hylton failed to provide an in-home system that was commercially viable. Hicks failed because of the requirement for new home wiring required to support the networking design of Hicks.

164. With respect to the commercial success of the '855 Patent, the Chatterjee Report ignores the substantial evidence Rovi produced in this Investigation showing that Rovi's NextGen Platform on Series 6 and Series 7 set-top boxes practice the Asserted Claims of the '855 Patent. I discussed this evidence in depth in the Jones Infringement Report at pages 166-248. The Chatterjee Report also ignores that [REDACTED], as I discussed at pages 248-294 of the Jones Infringement Report. Finally, the Chatterjee Report also ignores that Comcast's Accused Products practice the '855 Patent. Once again, I discussed this in the Jones Infringement Report, at pages 61-166. Rovi, [REDACTED] and Comcast have all achieved commercial success at least in part from incorporating the inventions of the '855 Patent into their products—which allows multiplexing of multimedia channels to a plurality of client devices efficiently (e.g., using the same data conveyance protocol) and cheaply (e.g., using the existing coax cables with a TDMA communication system). In ¶¶ 471-473 the Chatterjee Report indicates no awareness of any evidence of a long felt, but unresolved need specific to the features claimed by the '855 Patent. It then contends that Hicks, Negus, and Hylton had already satisfied any pending long felt, but unresolved need in the marketplace. Chatterjee Report, ¶ 471. That cannot be the case, however, because Hicks, Negus, and Hylton

do not solve the same problem as the '855 Patent (let alone disclose the same invention). As discussed above, Hylton was not even focused on an in-home network, and Hicks teaches only a standard in-home network.

165. In ¶ 472 the Chatterjee Report indicates that Rovi's expert reports from prior investigations do not discuss any long felt, but unresolved need specific to the supposed innovations of the '855 Patent. I understand that Rovi has not asserted the '855 patent in prior investigations. I have reviewed the July 24, 2018 Rebuttal Expert Report of Jim Williams from Investigation No. 337-TA-1103 ("Williams Rebuttal Report"), and in that report Mr. Williams provides a timeline of the state of the DVR industry from 1998 through 2010. For example, the Williams Rebuttal Report describes how TiVo and their partner Philips shipped their first DVR in 1999. Williams Rebuttal Report, ¶ 51(d). In 2000, TiVo, again partnering with Philips, released their first integrated DIRECTV/TiVo receiver/DVR. *Id.*, ¶ 51(f). The initial DIRECTV TiVo was deployed with two tuners, but the second tuner was disabled (until a software download eventually enabled it). *Id.* It was not until 2005 that "Dish Network announced the DISH Player-DVR 942 with 'dual tuner, HD DVR with the ability to view independent programs ... on two televisions at once.'" *Id.*, ¶ 52(i) (quoting Dish Network press release 1/6/2005 – DISH Network Introduces Pay-TV Industry First with Multi-Room Satellite TV Receiver That Records in High-Definition). "Now we are introducing the next generation of DVRS, including the first and only satellite TV receiver that will let you record HD programming and play it back in HD on the main TV and in standard definition on every other connected TV in the house." *Id.* Comcast took an additional three years before announcing its AnyRoom Video On Demand in 2008, which enabled users to start an On Demand program on one television and continue

viewing it on any other television in the home with a digital cable box. *Id.* (citing Comcast corporate timeline at <http://corporate.comcast.com/news-information/timeline>).⁵

166. In ¶¶ 474-482 the Chatterjee Report discusses other factors, but relies on the Hicks, Negus, and Hylton references to claim that “many others” had “devised the same inventions directed to the same goal as the ’855 Patent—namely, multiplexing a plurality of channels within a multimedia system.” The Chatterjee Report’s definition of the “goal” of the ’855 patent is too broad. As discussed above, the asserted claims of the ’855 patent are much more specific: they solve the problem of how to provide selected multimedia channels to a plurality of client devices efficiently and cheaply based on receiving channel selections from the client devices—all using the same data conveyance protocol. But as shown above, none of those reference teach the same inventions as the ’855 Patent, and none are directed toward the same goal. If they did teach the same inventions the Chatterjee Report would not have needed to resort to obviousness for all three of those references.

167. In ¶¶ 475 and 479, the Chatterjee Report claims Rovi identifies no evidence of skepticism by experts or teaching away by others. But as discussed above, Hicks, Negus, and Hylton each contain skepticism and teaching away from the inventions of the ’855 Patent. For example, Negus teaches low-bandwidth voice transmissions using isochronous clients, such as cordless telephones and wireless headsets. Negus at 21. For higher-bandwidth transmissions, Negus teaches using a TCP/IP-based network of asynchronous peer-to-peer devices. *Id.* In other words, in contrast to the ’855 Patent, Negus teaches away from TDMA transmissions for high-bandwidth applications. Similarly, Hylton teaches that a non-TDMA, spread spectrum wireless approach is advantageous for on-premise distribution. Hylton at Abstract (“A transmitter system,

⁵ The link used in the Williams Rebuttal Report no longer appears to be active, but the same information seems to be contained at <https://corporate.comcast.com/press/timeline>. Either way, that webpage confirms Comcast released its AnyRoom Video On Demand feature in 2008.

for example comprising a digital modulator, a spread spectrum modulator and a broadcast antenna, provides a wireless broadcast of the digital transport stream throughout the customer premise and possibly one or more near by premises.”). Hicks contains no mention of TDMA (or monitoring a shared bus at specific time intervals) outside of its citation to HomeRF (Negus).

168. The Chatterjee Report does not identify any simultaneous invention of the inventions within the asserted claims of the '855 patent. The report points to no system, much less one that was commercially available, that solved the problems that the inventions of the '855 patent solved.

XI. NEWLY DISCLOSED OPINIONS IN DR. CHATTERJEE'S REPORT

169. It is my understanding that Comcast had not disclosed the particular obviousness combinations that it would rely upon in its invalidity contentions. Rather, Comcast charted 17 alleged anticipation references and contended that any of the 17 could be combined with any other references to render the '855 patent invalid. This of course results in thousands of potential combinations and did not reasonably allow Rovi or myself to assess the potential obviousness combinations.

XII. CONCLUDING STATEMENT

170. If called upon to testify or to be deposed about claim construction in this investigation, I may cite the content of this report, as well as the documents cited herein and any statements or references provided by Rovi or Comcast. If called upon to provide a tutorial, I may rely on additional references than those listed for this report. I may participate in preparation of demonstratives for tutorial or claim construction whether or not I testify.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 10/7/19 at Blacksburg VA.



Mark T. Jones

From: Stephen.ODonohue@lw.com
Sent: Tuesday, October 22, 2019 1:47 PM
To: Leah B. Buratti; angela.quach@davispolk.com; ecruz@winston.com; Amy A. Hendershot; Erika.Weinstein@lw.com; Tanya J. Wood; comcast.rovi4@davispolk.com; COMCASTROVI3.LWTEAM@lw.com; itc1158winstoncourtesy@winston.com; Rovi_Comcast_ITC_III; matthew.rizzolo@ropesgray.com
Subject: RE: 337-TA-1158: Redacted Rebuttal Reports

Leah,

We confirm that the Jones and Williams rebuttal reports do not contain any Comcast CBI. Thanks.

Regards,

Stephen D. O'Donohue

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Subject: RE: 337-TA-1158: Redacted Rebuttal Reports

Stephen,

It looks like Comcast did not send redactions to the Jones and Williams rebuttal reports. Can you please confirm that they do not contain any Comcast CBI?

Thank you,
Leah

From: angela.quach@davispolk.com [<mailto:angela.quach@davispolk.com>]
Sent: Monday, October 21, 2019 11:32 PM
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Subject: 337-TA-1158: Redacted Rebuttal Reports

You received [1 file](#) from angela.quach@davispolk.com via ClientShare

Dear Counsel,

Below please find an FTP hyperlink which will prompt you to download a .zip file containing the parties' rebuttal reports with Comcast and third party CBI redacted.

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