

In sum, the secret, k_m , is used to generate derived key $dkey2$, which is used to at least decrypt session key k_s , which is used to encrypt and decrypt the protected content. This qualifies as a “use[] for generating a secure channel between the first device and the second device,” as required by claim 25.

6. Indirect Infringement of the 564 Patent

As a first step in proving induced or contributory infringement, Philips must prove that the Accused Receiver Products directly infringe the asserted claims of the 564 patent. *BMC Res. v. Paymentech*, 498 F.3d 1373, 1379 (Fed. Cir. 2007) (“Indirect infringement [] requires, as a predicate, a finding that some party amongst the accused actors has committed the entire act of direct infringement.”). Philips failed to prove such direct infringement and thus, as a matter of law, Philips cannot prevail on a claim of indirect infringement.

However, should the Commission find that the asserted claims of the 564 patent are directly infringed, in order to prove that Respondents induced infringement, Philips must prove that once Respondents knew of the patent, they actively and knowingly aided and abetted another’s direct infringement. *DSU Med. Corp*, 471 F.3d at 1305. To prove that Respondents contributed to the direct infringement of the asserted patents, Philips must prove that Respondents sold the Accused Receiver Products “with knowledge that the component is especially designed for use in a patented invention, and is not a staple article of commerce suitable for substantial noninfringing use.” *Wordtech Sys.*, 609 F.3d at 1316.

Philips asserts that Realtek induced infringement the 564 Patent through its advertising of and providing to customers all or substantially all of the hardware, software and/or firmware for implementing HDCP 2+ despite its pre-suit knowledge of infringement. *See CIB* at 57. Philips argues that “Realtek’s decision to continue inducing its customers to make, use, sell, and import infringing Receiver Products notwithstanding Realtek’s knowledge of its customers’ direct

[REDACTED]

infringement demonstrates conduct from which [specific] intent [to induce infringement] can be inferred.” *Id.* Philips also asserts that Realtek is liable for contributory infringement because its products allegedly do not have “substantial noninfringing uses.” *Id.* Philips submits that Realtek is liable for contributory infringement because the “accused Realtek functionality, i.e., the Realtek hardware, software, and/or firmware that supports HDCP 2+ over wired HDMI and DisplayPort interfaces has no substantial noninfringing uses.” *Id.* at 58.

Philips did not present sufficient evidence to prove any of the allegations outlined above. Philips’ expert testified that he has no opinion as to whether Realtek intended to induce infringement or whether Realtek has a good faith belief in non-infringement. *See* Tr. (Mangione-Smith) at 285:13-287:25. This testimony does not show the requisite intent for inducement of infringement. *Global-Tech*, 563 U.S. at 766. Nor is there any other evidence that Realtek specifically intended that its customers infringe a claim of the 186 patent, as opposed to merely “inten[ding] to cause the acts that produce direct infringement,” or that it, a Taiwanese company, “possessed the requisite knowledge and specific intent to induce direct infringement in the United States.” *Enplas*, 909 F.3d at 408; *DSU Med. Corp.*, 471 F.3d at 1306.

With respect to the requirement that there be no substantial non-infringing uses, Philips, argues that “the accused Realtek functionality, i.e., the Realtek hardware, software, and/or firmware that supports HDCP 2+ functionality over wired HDMI and/or DisplayPort interfaces has no substantial noninfringing uses.” CRB at 58. Thus, Philips’ focus is on the components that support HDCP 2+ functionality only. Philips thus bears the burden to prove that a component that is a “material part” of the invention lacks substantial noninfringing use to establish contributory infringement. *Fujitsu*, 620 F.3d at 1326; *Toshiba Corp.*, 681 F.3d at 1363. In cases involving combinations of software, hardware, and firmware, the relevant material or apparatus is a “separate

[REDACTED]

and distinct feature that can be part of a larger product.” *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1320-21 (Fed. Cir. 2009) (noting that the “date-picker” tool was a separate and distinct feature of the Outlook software); *see also Fujitsu*, 620 F.3d at 1331 (“[T]he fragmentation functions of the Accused Products in this case are ‘separate and distinct’ features and we must treat them separately in analyzing contributory infringement.”). In the present case, Philips accuses the processor circuits in the Accused Realtek-Based Receiver Products, which thus, are the relevant “material or apparatus” that must be analyzed.

Realtek processors have “substantial noninfringing uses.” RIB at 100. For example, they are capable of [REDACTED]

[REDACTED] *See* Tr. (Stubblebine) at 911:11-23. No evidence was presented that there exist “separate and distinct” processor circuits within Realtek’s products that have no function other than practicing HDCP 2+. Accordingly, Philips fails to prove contributory infringement of the 564 patent.

VI. DOMESTIC INDUSTRY TECHNICAL PRONG

A. The 186 Patent

Philips submits that its Domestic Industry Transmitter Products (“DI Transmitter Products”) are Roku’s streaming players that support HDCP 2+ over an HDMI interface, and are listed in exhibit CX-2031C. *See* CIB at 14. Philips states that these products practice the asserted claims of the 186 patent in much the same way as the Accused Transmitter Products infringe. Tr. (Mangione-Smith) at 175:14-176:1. Thus, each claim element will be discussed using the same annotations as was used for the infringement analysis.

- 1. 1[Pre] “A first device for controlling delivery of protected content to a second device,”**

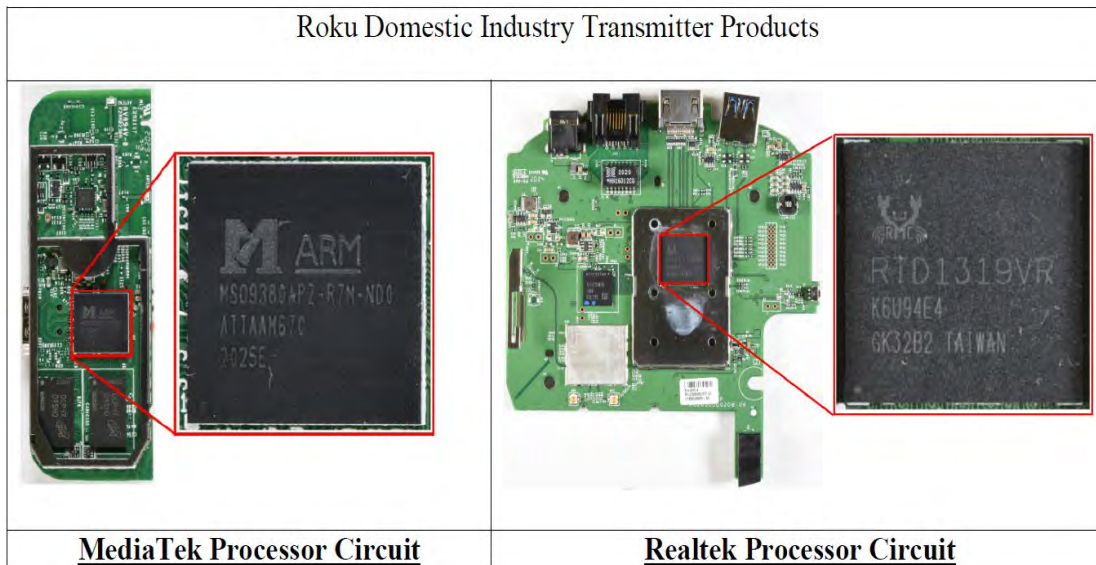
[REDACTED]

The DI Transmitter Products that support HDCP 2+ are transmitters for controlling delivery of protected content to a second, receiver device. The HDCP 2+ protocol is “designed to protect the transmission of Audiovisual Content between an HDCP Transmitter and an HDCP Receiver.” CX-233.0008; *see* Tr. (Mangione-Smith) at 198:23-199:17; CDX-0010C.111-.113. Thus, these products practice element 1[Pre].

Respondents do not dispute this evidence.

2. **1[a] “the first device comprising a processor circuit, the processor circuit arranged to execute instructions, the instructions arranged to:”**

The Roku DI Transmitter Products include either (i) a MediaTek processor circuit arranged to execute instructions to support HDCP 2+ transmitter functions, or (ii) a Realtek processor circuit arranged to execute instructions to do so:



CDX-0010C.0125; *see also* CX-0568 (TechInsights Analysis Results for Roku Premiere 3920) at CX-0568.290; CX-0571 (TechInsights Analysis Results for Roku Ultra 4800R) at CX-0571.253; JX-0056C (Perry Tr.) at 16:18-23; CX-0859C; Tr. (Mangione-Smith) at 204:3-207:22; CDX-0010C.125-.134.

[REDACTED]

The MediaTek-based Roku Products have a processor circuit that includes the MediaTek

[REDACTED]

[REDACTED] CX-0726C.0004, .0009. [REDACTED]

[REDACTED]

[REDACTED] *Id.* [REDACTED]

[REDACTED] JX-0042C ([REDACTED]) at 16:22-17:5, 29:6-8; CPX-0400SC, CPX-0403SC, CPX-0464SC, CPX-0518SC, CPX-0522SC, CPX-0527SC, CPX-0529SC; Tr. (Mangione-Smith) at 185:12-190:1, 204:3-205:7, 205:23-206:18; CDX-0010C.96-.101, .126-.127, .130-.132.

The processor circuit in the Realtek RTD1319 SoC integrated circuit includes, among other things, [REDACTED]

[REDACTED]

[REDACTED] CX-0709C.0010. The source code provided by Realtek, which is “representative of what is on the chips at issue,” illustrates that this SoC supports HDCP 2.2 transmitter functionality over HDMI. JX-0047C ([REDACTED]) at 13:17-22; CPX-0739SC, CPX-0740SC, CPX-0758SC, CPX-0759SC; Tr. (Mangione-Smith) at 190:5-195:24, 205:10-206:8, 206:20-207:10; CDX-0010C.102-.107, .128-.131, .133-.134.

Respondents do not dispute this evidence. These products practice element 1[a].

3. **1[b] “receive a second device certificate from the second device prior to sending a first signal”**

Philips’ expert, Dr. Mangione-Smith, testified that the processor circuits in each of the Roku MediaTek-based DI Transmitter Products and the Roku Realtek-based DI Transmitter Products are arranged to execute instructions for receiving a certificate from a second device prior

[REDACTED]

to sending a first signal. *See* Tr. (Mangione-Smith) at 185:12-187:11 (Roku MediaTek-based domestic industry products), 190:8-192:11 (Roku Realtek-based domestic industry products).

Respondents do not dispute this evidence. Thus, the products practice element 1[b].

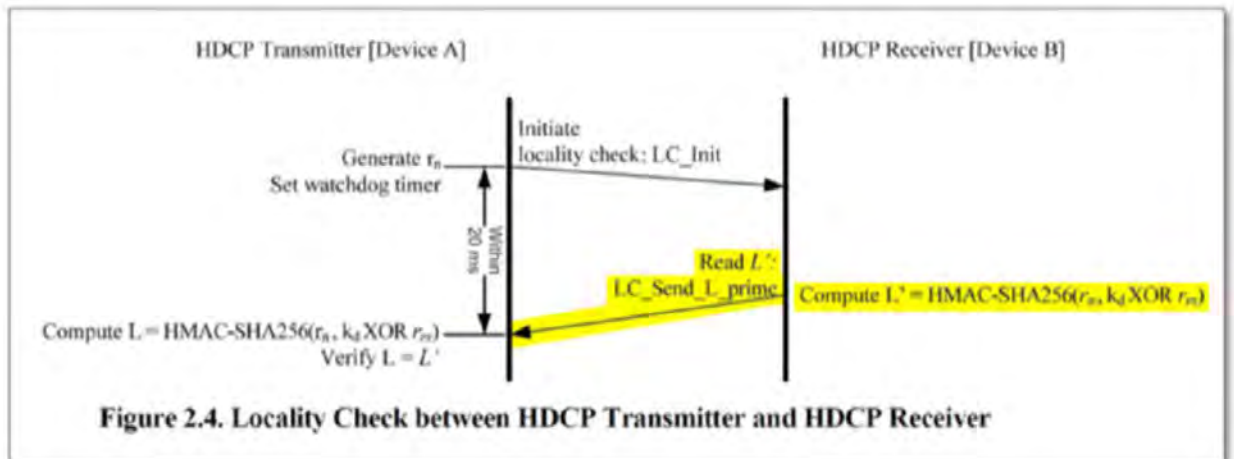
4. **1[c] “provide the first signal to the second device when the second device certificate indicates that the second device is compliant with at least one compliance rule;”**

As discussed previously, the parties disagree as to whether the Accused Transmitter Products meet this similar element of claim 1 of the 186 patent, and as noted they do. *See* Section IV.D.1.d., *supra*. The parties similarly disagree as to whether the DI Transmitter Products practice this element. As Staff points out, “the disputes between the parties are the same with respect to both infringement analysis and the domestic industry/technical prong analysis.” SIB at 68; *see* RIB at 105-06. Accordingly, the entire analysis of this element need not be repeated here as it is substantially the same as the infringement analysis given above. It suffices to note that Respondents do not expressly dispute Philips’ contention that “the Alleged Roku DI Products use DCP Public Key Certificates.” RIB at 106.

Therefore, the DI Transmitter Products meet element 1[c] of claim 1 of the 186 patent.

5. **1[d] “receive a second signal from the second device after providing the first signal;”**

As with the Accused Transmitter Products, the processor circuit of each of the DI Transmitter Products includes instructions arranged to receive a second signal, i.e., L’, from the second device after providing the first signal, i.e., r_n, contained within the message LC_Init:



CX-0233 at Fig. 2.4. Dr. Mangione-Smith testified that the processor of each DI Transmitter Product is arranged to receive a second signal from the second device after providing the first signal. *See* Tr. (Mangione-Smith) at 187:12-188:25 (Roku MediaTek-based domestic industry products), 192:13-194:4 (Roku Realtek-based domestic industry products).

Respondents do not dispute this evidence. The DI Transmitter Products therefore meet this element.

6. **1[e]/1[f] “provide the protected content to the second device when the second signal is derived from a secret and a time between the providing of the first signal and the receiving of the second signal is less than a predetermined time, wherein the secret is known by the first device.”**

Similar to element 1[c] discussed above, the parties disagree as to whether the DI Transmitter Products practice this element. Further, similar to the discussion above, the analysis for the DI Transmitter Products is the same as what was presented with respect to the Accused Transmitter products. Therefore, the entire analysis need not be repeated here.

As with the analysis above, this element is best analyzed in two parts. The first part is “provide the protected content to the second device when the second signal is derived from a secret.” The DI Transmitter Products “provide the protected content to the second device when the second signal L' is derived from a secret k_m ” because they implement functionality of the

[REDACTED]

HDCP 2+ specification. *See* Tr. (Mangione-Smith) at 187:12-189:11 (Roku MediaTek-based domestic industry products), 192:13-194:17 (Roku Realtek-based domestic industry products). The DI Transmitter Products “provide the protected content to the second device” because each product has a processor circuit that includes instructions arranged to implement an SKE stage after successful completion of the AKE and LC stages, and then the first and second devices establish an encrypted session so that the first device can provide the content, protected by the encryption, to the second device. *See* CX-0233.0017; Tr. (Mangione Smith) at 189.19:1-190:1 (Roku MediaTek based DI products), 196:6-14 (Roku Realtek-based DI products). And the secret, k_m , is known to the first device. *See* CDX-0010C.0097, .0103.

Furthermore, the processor circuit in each of the DI Transmitter Products includes instructions arranged to determine whether the second signal L' is derived from secret k_m as a condition precedent to providing the protected content to the second device. *See* Tr. (Mangione-Smith) at 223:3-224:15. This functionality is required of the HDCP 2+ specification, [REDACTED]

[REDACTED] *See id.* at

187:12-189:11 [REDACTED] 192:13-193:8 [REDACTED]

[REDACTED]

The second part of element 1[e] requires that a time between the providing of the first signal r_n , which is contained within the LC_Init message, and the receiving of the second signal, L' , is less than a predetermined time. Dr. Mangione-Smith prepared a demonstrative to illustrate this limitation in the Realtek-based DI Transmitter products:

[REDACTED]

[REDACTED]

See Tr. (Mangione-Smith) at 192:13-19; CDX-0010C.0105. The [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] See Tr. (Mangione-Smith) at 235:14-236:13 (citing CX-0571.110, .117).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] See CDX-0010C.0105. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Tr. (Mangione-Smith) at 235: 8-

13. [REDACTED]

[REDACTED] See also Tr. (Mangione-Smith)

[REDACTED]

at 242:5-22 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The Realtek-based DI Transmitter Products therefore do not practice this limitation.

As for the MediaTek-based Roku DI Transmitter Products, [REDACTED]

[REDACTED]

[REDACTED] See Tr. (Mangione-Smith) at 187:12-189:18, 236:14-25; CDX-0010C.0099, .0181. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] CX-563.203, 210 [REDACTED]; Tr. (Mangione-Smith) at 237:1-16. [REDACTED]

[REDACTED]

[REDACTED] See Tr. (Mangione-Smith) at 241:13-242:3; *compare* CDX-0010C.0099, .0181 *with* CDX-0010C.0105., .0179.

Accordingly, none of the DI Receiver Products practice claim 1 of the 186 patent.

7. **Claim 9: “The first device of claim 1, wherein the determining that the second signal is derived from the secret comprises: modifying the first signal, wherein the modifying requires the secret; and determining that the modified first signal is identical to the second signal.”**

Claim 9 depends from independent claim 1. The DI Transmitter Products do not practice claim 1, and thus the products do not practice claim 9 since it includes the limitations of claim 1.

However, should claim 1 be found to be practiced by the DI Transmitter Products, claim 9 also should be found to be practiced. The evidence shows that the processor circuit in each of the

[REDACTED]

DI Transmitter Products includes instructions arranged to modify the first signal r_n , which requires the secret k_m , in order to generate a modified first signal L , and to determine that the modified first signal L is identical to the second signal L' . *See* CX-0233.0017 (“Verify $L = L'$ ”); Tr. (Mangione-Smith) at 245:24-246:16. Dr. Mangione-Smith further presented source code having the instructions to perform the specific limitations of the claim. *See* Tr. (Mangione-Smith) at 192:13-194:17.

8. **Claim 11: “The first device of claim 1, further comprising instruction arranged to provide the secret to the second device.”**

Claim 11 depends from independent claim 1. The DI Transmitter Products do not practice claim 1, and thus the products do not practice claim 11 since it includes the limitations of claim 1.

However, should claim 1 be found to be practiced by the Accused Transmitter Products, claim 11 also should be found to be practiced. Philips presented evidence, which was not disputed by Respondents, that the processor circuit in each of the DI Transmitter Products includes instructions arranged to provide the secret k_m to the second device. *See* CX-0233.0012; Tr. (Mangione-Smith) at 246:17-247:5. Dr. Mangione-Smith further testified that the processor circuit of each DI Transmitter Product is arranged to execute instructions that satisfy this claim element. *See* Tr. (Mangione-Smith) at 180:25-181:5, 184:3-185:4, 187:5-11.

9. **Claim 12: “The first device of claim 1, wherein the second signal comprises the first signal modified by the secret.”**

Claim 12 depends from independent claim 1. The DI Transmitter Products do not practice claim 1, and thus the products do not practice claim 12 since it includes the limitations of claim 1.

However, should claim 1 be found to be practiced by the DI Transmitter Products, claim 12 also should be found to be met. Philips presented evidence, which was not disputed by Respondents, that each DI Transmitter Product uses HMAC-SHA256 computation to calculate L and L' , which is required by the HDCP 2+ protocol. *See* CX-0233.0012, .0017; RX-7074C.0006;

[REDACTED]

Tr. (Mangione-Smith) at 247:6-248:7. Philips also showed that use of HMAC-SHA256 computation necessarily involves creating L and/or L' by modifying the first signal r_n by the secret k_m . *See* CX-0233.0012, .0017.

10. **Claim 14: “The first device of claim 1 wherein the secret is encrypted with a public key.”**

Claim 14 depends from independent claim 1. The DI Transmitter Products do not practice claim 1, and thus the products do not practice claim 14 since it includes the limitations of claim 1.

However, should claim 1 be found to be practiced by the DI Transmitter Products, claim 14 also should be found to be met. Philips presented evidence, which was not disputed by Respondents, that the processor circuit in each of the DI Transmitter Products includes instructions arranged to provide the secret k_m to the second device under encryption by the receiver's public key k_{pubrx} . *See* CX-0233.0012; Tr. (Mangione-Smith) at 248:8-19. Dr. Mangione-Smith further testified, citing the source code regarding claim 11 discussed above (“further comprising instructions arranged to provide the secret to the second device”), that the processor circuit of each DI Transmitter Product is arranged to execute instructions that satisfy this claim element. *See* Tr. (Mangione-Smith) at 180:25-181:5, 184:3-185:4, 187:5-11.

B. The 564 Patent

Philips submits that its Domestic Industry Receiver Products (“DI Receiver Products”) are Roku's streaming players products listed in exhibit CX-2031C that support HDCP 2+ over a Miracast interface (CIB at 16) and Samsung's televisions that support HDCP 2+ over HDMI (CIB at 17). Philips asserts that these products practice the asserted claims of the 564 patent in much the same way as the Accused Receiver Products infringe. *See* CIB at 16-17. Thus, each claim element will be discussed using the same annotations as was used for the infringement analysis.

1. **1[Pre] “A second device for receiving delivery of a protected content from a first device,”**

[REDACTED]

The DI Receiver Products are receivers that support HDCP 2+ for receiving delivery of protected content from a transmitter device. *See* Tr. (Mangione-Smith) at 259:12-17; CX-0233.0008.

2. **1[a] “the second device comprising a processor circuit, the processor circuit arranged to execute instructions, the instructions arranged to:”**

The Roku DI products include a MediaTek SoC that [REDACTED]
[REDACTED] *See* Tr. (Mangione-Smith) at 260:20-25; CX-0568.0290. These chips are the same as in the Accused MediaTek-Based Receiver Products.

The Samsung DI Receiver Products include a processor circuit that executes instructions required of HDCP 2+:



CX-1984; *see* Tr. (Mangione-Smith) at 261:14-262:22. Dr. Mangione-Smith testified that he did not review Samsung source code; however, he reviewed the Samsung products’ “E-manual” that indicates that it is running software, and also he had outside technicians “exercise the televisions, bring up a similar screen, and the TV that was being investigated shows that it’s running software Version T-NKLAKKUC-1301.4., so it’s running software.” Tr. (Mangione-Smith) at 262-18-22.

Thus, the DI Receiver Products meet element 1[a] of the 564 patent.

3. **1[b] provide a certificate to the first device prior to receiving a first signal, wherein the first signal is sent by the first device, wherein the certificate is associated with the second device;**

[REDACTED]

The Roku DI Receiver Products' processor circuit includes instructions arranged to provide a certificate cert_{rx} to the first device during the AKE Stage, which occurs in response to receipt of an AKE_Init signal, and prior to receiving a first signal r_n. *See* CX-0233.0012; Tr. (Mangione-Smith) at 265:17-267:23. [REDACTED]

[REDACTED] CIB at 107-108. A detailed discussion of how these products provide a certificate is presented above and need not be repeated here. The Roku DI Receiver Products therefore meet element 1[b] of the 564 patent.

However, as discussed earlier, the source code for the Samsung DI products was not evaluated in this investigation. Therefore, during the hearing, Philips' expert did not testify specifically about this element with respect to the Samsung products, and Philips did not include specific source code or product specifications to show that the Samsung DI products meet this element in its briefing or in exhibits. *See generally* CDX-0010C.0231-.0248. Therefore, the evidence is insufficient to find that the Samsung DI Receiver Products meet claim element 1[b] of the 564 patent.

4. **1[c] "receive the first signal when the certificate indicates that the second device is compliant with at least one compliance rule;"**

The arguments presented by Philips with respect to the Accused Receiver Products apply similarly to the Roku DI Receiver Products because the same technology is used in both products. That the Roku DI Receiver Products are compliant with HDCP 2+ shows that they use certificates signed by DCP, LLC, as explained above. Therefore the Roku DI Receiver Products meet limitation 1[c] of the 564 patent.

No specific evidence on this limitation was presented regarding the Samsung DI Receiver Products, and thus, these products do not meet the claim element.

[REDACTED]

5. **1[d] “create a second signal, wherein the second signal is derived from a secret known by the second device;”**

Again, similar to the findings made with respect to the processor circuit in each of the Accused Receiver Products, the processor circuit in the Roku DI Receiver Products is capable of executing instructions to create a second signal (L') that is derived from a secret (k_m) known by the second device. *See* Tr. (Mangione-Smith) at 272:5-273:15. Thus, the Roku DI Receiver Products also meet this element of the 564 patent.

Again, however, no specific evidence was presented regarding the Samsung DI Receiver Products, and thus, these products do not meet the claim element.

6. **1[e] “provide the second signal to the first device after receiving the first signal, wherein the second signal is received by the first device; and”**

The processor circuit in the Roku DI Receiver Products includes instructions arranged to provide the second signal L' to the first device after receiving the first signal r_n , wherein the second signal L' is received by the first device. *See* CX-0233.0017; Tr. (Mangione-Smith) at 272:5-273:15. [REDACTED]

[REDACTED] *See* Tr. (Mangione-Smith) at 251:12-23 and 252:18-254:13; CIB at 112-113. Therefore, the Roku DI Receiver Products meet limitation 1[e] of the 564 patent.

There was no specific evidence presented regarding the Samsung DI Receiver Products, and thus, these products do not meet the claim element.

7. **1[f] “receive the protected content from the first device when the first device determines that the second signal is derived from the secret and a time between the sending of the first signal and the receiving of the second signal is less than a predetermined time.”**

As with the Accused Receiver Products, there is no dispute that the Roku DI Receiver Products meet the first part of this element, “receive the protected content from the first device

[REDACTED]

when the first device determines that the second signal is derived from the secret.” See RIB at 102-05. The evidence shows that the processor circuit in each of the Roku DI Receiver Products includes instructions arranged to receive the protected content from the first device when the first device determines that the second signal L' is derived from the secret k_m . See CX-0233.0005; Tr. (Mangione-Smith) at 273:16-275:10.

The second part of this element, that the condition “a time between the sending of the first signal and the receiving of the second signal is less than a predetermined time” must be satisfied, has been discussed in detail with respect to the Accused Receiver Products, which do not meet that limitation. Because the Roku DI Receiver Products contain the same SoCs, these products also do not meet that limitation. And, again, no evidence was presented as to how the Samsung DI Receiver Products meet this limitation.

Therefore, Philips’ DI Receiver products do practice claim 1 of the 564 patent.

8. **Claim 18: “The second device of claim 1, further comprising instructions arranged to receive the secret from the first device.”**

Claim 18 depends from independent claim 1. The DI Receiver Products do not practice claim 1, and thus the products do not practice claim 18 since it includes the limitations of claim 1.

However, should claim 1 be found to be practiced by the DI Receiver Products, claim 18 also should be found to be practiced. Philips presented evidence that the processor circuit in the Roku DI Receiver Products includes instructions arranged to receive the secret k_m from the first device. See CX-0233.0012; Tr. (Mangione-Smith) at 276:24-277:18. No evidence was presented regarding the Samsung DI Receiver products, and thus, they do not practice claim 18.

9. **Claim 19: “The second device of claim 1, wherein the second signal comprises the first signal modified by the secret.”**

Claim 19 depends from independent claim 1. The DI Receiver Products do not practice claim 1, and thus the products do not practice claim 19 since it includes the limitations of claim 1.

[REDACTED]

However, should claim 1 be found to be practiced by the DI Receiver Products, claim 19 also should be found to be practiced. Philips presented evidence, which was not disputed by Respondents, that the processor circuit in each of the Roku DI Products includes instructions arranged to create the second signal L,' which includes the first signal r_n modified by the secret k_m (which is used to derive k_d) using HMAC-SHA256 computation. See CX-0233.0012, .0017; RX-7074C.0006; Tr. (Mangione-Smith) at 277:19-278:14.

No evidence was presented regarding the Samsung DI Receiver products, and thus, they do not practice claim 19.

10. **Claim 21: "The second device of claim 1, wherein the secret is encrypted with a public key."**

Claim 21 depends from independent claim 1. The DI Receiver Products do not practice claim 1, and thus the products do not practice claim 21 since it includes the limitations of claim 1.

However, should claim 1 be found to be practiced by the DI Receiver Products, claim 21 also should be found to be practiced. The processor circuit in each of the Roku DI Products includes instructions arranged to receive the secret k_m from the first device, encrypted using the receiver's public key. See CX-0233.0012; Tr. (Mangione-Smith) at 278:15-279:4.

No evidence was presented regarding the Samsung DI Receiver products, and thus, they do not practice claim 21.

11. **Claim 25: "The second device of claim 1, wherein the secret is used for generating a secure channel between the first device and the second device."**

Claim 25 depends from independent claim 1. The DI Receiver Products do not infringe claim 1, and thus the products do not practice claim 25 since it includes the limitations of claim 1.

However, should claim 1 be found to be practiced by the DI Receiver Products, claim 25 also should be found to be practiced. Each of the Roku DI Receiver Products includes the

[REDACTED]

capability to use the secret k_m for generating a secure channel between a first device and the second device, by computing a derived key that encrypts and decrypts session key k_s , that can then be used to establish the HDCP 2+ encrypted session between the transmitter and the receiver for transfer of content. *See* CX-0233.0017-.0018, .0024-.0025, 50; Tr. (Mangione-Smith) at 279:5-281:19.


No specific evidence was presented related to the Samsung DI Products, and thus, they do not practice claim 25.

VII. VALIDITY OF BOTH THE 186 AND 564 PATENTS

The two patents in suit present generally overlapping validity issues, which are addressed jointly.

A. Patent Eligibility under 35 U.S.C. § 101

35 U.S.C. § 101 provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor.” Implicit in this provision is the principle that “abstract ideas are not patentable.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014). An example of such an abstract idea is an “algorithm[]” that amounts to a “method of organizing human activity.” *Id.* at 219-20. A corollary to the patent-ineligibility of such algorithms is that a method of implementing them on a programmable computer, without more, is also patent-ineligible. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016) (a process qualifies as an abstract idea when “computers are invoked merely as a tool”). This does not mean that “claims directed to software” are inherently abstract. *Id.* at 1335. But an algorithm that can be performed in the human mind, or by a human using pen and paper, remains abstract when carrying it out using a computer. *See Ericsson Inc. v. TCL Comm. Tech. Holdings Ltd.*, 955 F.3d 1317, 1327 (Fed. Cir. 2020).



Yu v. Apple Inc., 1 F.4th 1040 (Fed. Cir. 2021), is an extreme example. In *Yu*, the claim at issue was directed to a digital camera comprising lenses, two image sensors, analog-to-digital converting circuitry, and a memory for storing the images output by the two image sensors. *Id.* at 1042. It also comprised:

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.

Id. (quoting U.S. Patent No. 6,611,289). The Federal Circuit held that the claim was directed to patent-ineligible subject matter at step one of *Alice*, in part because the claim’s solution to the technical problems disclosed in the specification “is the abstract idea itself – to take one image and ‘enhance’ it with another.” *Id.* at 1044. The claim apparently encompassed no particular technique of, or improvement on, enhancement as a process, it simply recited the generalized, non-specific act of “enhance[ment].” *See id.* The claim at issue in *Yu* was therefore “abstract” in the most literal sense.

Indeed, given the degree to which that claim was abstract, *Yu* has little pertinence here. The independent claims in suit are particularized and concrete, as Order No. 27 explained:

The remaining independent claim of the 564 patent covers an apparatus comprising a processor circuit, the processor circuit arranged to execute certain instructions, the instructions arranged to perform certain method steps, including providing an authenticating certificate, providing, creating, and receiving certain signals, and providing secure content after determining whether a measured time difference exceeds a threshold value. *See* 564 patent, cl. 1. The remaining independent claim of the 186 patent is to similar effect, although it covers a companion apparatus, with which the apparatus of claim 1 of the 564 patent communicates. 186 patent, cl. 1.

Order No. 27 at 2 (May 24, 2021). And the claims are rendered even more particularized and concrete by some of the individual elements. As two examples, a “certificate” has been construed to have a precise meaning of “information containing at least the entity’s distinguishing identifier and public key, and signed by a certification authority to guard against forgery,” and one of the

[REDACTED]

claimed signals must “indicate[] . . . complian[ce] with at least one compliance rule,” where even Respondents argue that “compliance” refers to a device “that behaves according to certain rules for managing (copyrighted) content.” RIB at 31 (quoting RX-236C.3).

Admittedly, the claims at issue involve a processor circuit arranged to perform certain tasks, and claims of other patents have been found patent-ineligible at step one of *Alice* where they covered computers programmed to perform similar individual tasks. *See generally* RIB at 108-10 (collecting cases). But the similarities between prior cases and the present case are only superficial. In *Prism Techs. LLC v. T-Mobile USA, Inc.*, 696 Fed. Appx. 1014, 1015, 1017 (Fed. Cir. 2017), for instance, a “method for controlling access . . . to protected computer resources” was found patent-ineligible where it recited the four steps of:

- (1) receiving identity data from a device with a request for access to resources; (2) confirming the authenticity of the identity data associated with that device; (3) determining whether the device identified is authorized to access the resources requested; and (4) if authorized, permitting access to the requested resources.

Although such a claim bears a passing resemblance to claim 1 of the 186 patent, it lacks that claim’s particularity, including the requirements of a certificate (which, as noted, has itself been construed with particularity) and compliance with a compliance rule (that is, a “certain” rule for managing copyrighted content).

As another example, a “method for determining responsiveness of a service” was found patent-ineligible where it recited, among other steps, “determining . . . response times” to requests in a computer network, “calculating . . . an average response time,” “establishing . . . a predetermined [response time deviation] threshold,” and “identifying . . . a service as available” when the particular service’s response time deviates from the average within the predetermined threshold. *Citrix Systems, Inc. v. Avi Networks, Inc.*, 363 F.Supp.3d 511, 516-17 (D.Del. 2019). This claim, too, bears a passing resemblance to the claims in suit, but the claims in suit require

[REDACTED]

multiple specific conditions to be satisfied, including satisfaction of a threshold time requirement, before actually “provid[ing]” or “receiv[ing]” protected content, as opposed to a single condition before “identifying” a service’s availability for some unspecified activity.

The threshold time requirement is especially significant in the *Alice* step one analysis, for two reasons. First, as Order No. 27 observed, for summary determination purposes none of the cases on which Respondents relied contained a “timed challenge-response” element. *See* Order No. 27 at 3. Although for present purposes Respondents have identified cases which hold that “challenge-response” is abstract, they still identify no cases holding that “*timed* challenge-response” is abstract. *See* RIB at 109-10. The observation in Order No. 27 that “‘timed challenge-response’ is a feature of numerous patentable inventions” therefore stands un rebutted. Order No. 27 at 3.

Second, there is authority suggesting that “challenge-response” by itself is sufficient to satisfy Section 101, so that adding a time delay threshold requirement only strengthens patent-eligibility. *See Certain RFID Products*, Comm’n Op. (Oct. 30, 2017). As noted, the asserted claims in *Certain RFID Products* covered an “RFID reader configured to” send an “identifier” and a “security key” to an “RFID transponder,” and then receive “memory contents” from the transponder “as a result of validation of the security key.” *Id.* at 9. Another asserted claim covered an “RFID transponder” comprising an antenna and a memory coupled to a “processor,” with the processor “configured” to “grant access to the memory contents based on [a received] security key.” *Id.* at 10. The Commission reviewed, and ultimately took no position on, “the final ID’s finding that the Asserted Claims are not invalid under § 101,” although it did hold them invalid on

[REDACTED]

other grounds.⁷ *Id.* at 2, 4. As with the claims in suit, the claims in *Certain RFID Products* involved configuring a processor (i.e., a processor circuit arranged to execute instructions), transmission of a key (i.e., a secret), and transmission of memory contents (i.e., protected content) after validation of the key (i.e., determining the second signal is derived from the secret). It stands to reason that if such claims are patent-eligible under 35 U.S.C. § 101, then the present claims in suit, which further include a time delay threshold, are also patent-eligible.

Lastly, Order No. 30 noted an “apparent disparity” between the legal test at step one of *Alice* as articulated in *Yu*, and the test articulated in *CardioNet, LLC v. InfoBionic, Inc.*, 955 F.3d 1358, 1368 (Fed. Cir. 2020). Order No. 30 at 2 (June 15, 2021). Respondents rely heavily on *Yu*, cite *CardioNet* only in passing, and otherwise do not brief the effect, if any, of *Yu* on the law applicable to step one of *Alice*. See RIB at 106-13; RRB at 67-72. More importantly, even applying the holding of *Yu*, a focus on the claims’ “result or effect” shows they are not limited to an “abstract idea itself.” 1 F.4th at 1043-44. Therefore, any legal ambiguity over the *Alice* step one test is immaterial.

Accordingly, the claims of the 186 and 564 patents are patent-eligible at step one of *Alice*.

B. Anticipation and Obviousness Under 35 U.S.C. §§ 102 and 103

Respondents rely on four references to support their anticipation and obviousness arguments: (1) the Open Copy Protection System (“OCPS”) (RX-0893, RX-0894, RX-0895, and RX-0903); (2) U.S. Patent No. 5,778,071 to Caputo, et al. (“Caputo”) (RX-0013); (3) Transport Layer Security protocol version 1.0 (“TLS”) (RX-0359 and RX-7142); and (4) W. Richard

⁷ The finding of “patentable subject matter” was in the form of an oral ruling on a motion for summary determination. See EDIS Doc. ID No. 617934 (Complainant Neology, Inc.’s Response to Respondents’ Contingent Petition for Review of the Initial Determination) at 5-6 (July 13, 2017).

[REDACTED]

Stevens, *TCP/IP Illustrated, Volume 3, TCP for Transactions, HTTP, NNTP, and the Unix Domain Protocols* (1996) (“Stevens”) (RX-512). *See generally* RIB at 113-53. The earliest asserted priority date for both the 186 and 564 patents is July 26, 2002, based on European Patent Application No. EP02078076. *See* JX-0002 (186 patent) at cover; JX-0003 (564 patent) at cover. Caputo issued July 7, 1998 (RX-0013.0001), TLS was published as a printed publication on January 31, 1999 (RX-0320.0003), and Stevens was copyrighted in 1996 (RX-0512.0008); these three references qualify as prior art under pre-AIA 35 U.S.C. § 102(a) and § 102(b).

Whether OCPS so qualifies, however, requires closer scrutiny. Respondents assert that OCPS was “described in a printed publication . . . in this . . . country . . . more than one year prior to the date of the application for patent in the United States.” *See* RIB at 115-17; 35 U.S.C. § 102(b) (pre-AIA). Three documents describing OCPS were sent via email on May 7, 2002, from Michael Epstein, an employee of Complainants located in Briarcliff Manor, New York, to an email “reflector” operated by the Broadcast Protection Discussion Group (“BPDG”), a United States-based industry association. *See* RX-1242C ([REDACTED]) at Q/A 2, 9-10, 29-32. Although all three documents were offered in evidence (and admitted) by Respondents separately – as a term sheet for an OCPS license (RX-0894), OCPS compliance and robustness rules (RX-0895), and a technical document entitled “Proposal to Broadcast Protection Discussion Group” (RX-0903) – in fact all three documents were attached to the one May 7, 2002 email (RX-893). *See id.* at Q/A 33-35. The email reflector distributed the email to approximately 175 individual subscriber/BPDG members. *See id.* at Q/A 12, 18. Except for journalists acting in their official capacity, membership in BPDG was open to any individual or group, and BPDG considered its proceedings public. *See id.* at 19-20, 22.

[REDACTED]

Given these facts, the May 7, 2002 email qualifies as a printed publication in this country. *See M&K Holdings, Inc. v. Samsung Electronics Co., Ltd.*, 985 F.3d 1376, 1378-80 (Fed. Cir. 2021). The email was distributed domestically, and as with the references in *M&K Holdings*, the distribution was electronic and to members of an industry group with no expectation of confidentiality. Moreover, the relevant priority date for present purposes is the date the patent application was filed in the United States, which was June 27, 2003, more than one year after the email. *See* 35 U.S.C. § 119 (pre-AIA) (“no patent shall be granted on any application for patent for an invention which had been patented or described in a printed publication in any country more than one year before the date of the actual filing of the application in this country”). Therefore, OCPS qualifies as Section 102(b) prior art.

1. **Summary of Prior Art**

OCPS is a “digital output protection technology.” RX-0893.0014. It involves a “source device . . . that sends content” and a “sink device . . . that receives content from an OCPS link.” *Id.* at .0015. It also involves at least one third party “Trust Authority” that issues two types of certificates, one “containing the public keys of each device,” and one “containing revocation notifications.” *Id.* The OCPS protocol has five phases: (1) authentication, where the source and sink devices authenticate each other; (2) key exchange, where “random numbers and key material” are created and exchanged; (3) key generation, where the key material is used to generate a “session key”; (4) information transmission, where content is transferred between the source and sink devices; and (5) key update, which is performed “periodically” in the midst of the information transmission phase. *Id.* During the authentication phase, the sink device sends the source device a certificate. *Id.* at .0018. During the key exchange phase the source device generates and encrypts a random number and sends it to the sink device, which decrypts it, re-encrypts it, and returns it to the source device. *Id.* If the “time needed for [the random number] to make the round trip . . . is

[REDACTED]

greater than the maximum time allowed,” then “the protocol is terminated by the source device.”
Id.

Caputo discloses a “security device” that “uniquely identif[ies] the user” to a network or computer system, and that will not permit communications “until the device, and optionally the user, have been identified by the proper authentication.” RX-0013.0001 (Abstract). Caputo’s “device authentication process” involves a “challenger” generating a time-varying or random number and sending it to the user. *Id.* at .0022 (col. 13, ll. 34-40). A PIN is then added to the number using an “exclusive-OR function” and the result is encrypted and sent back to the challenger, where the signal is processed for authentication. *Id.* (col. 13, ll. 42-59). Caputo was disclosed to the examiner during prosecution. *E.g.*, JX-0002 (186 patent) at References Cited.

TLS is a “protocol for implementing cryptography” on the internet. RX-7142.0001. It allows “client/server applications to communicate in a way that is designed to prevent eavesdropping, tampering, or message forgery.” RX-359.0001. The protocol includes “the server provid[ing] a valid certificate if required,” followed by the client sending a “key exchange message,” which establishes a “premaster secret.” *Id.* at .0042-.0043. Eventually a “master secret” is generated from the premaster secret, and the master secret is used to generate encryption keys. *Id.* at .0047, .0059, .0072. This allows for the two devices to “communicate protected content safely” via “secure authenticated channel.” Tr. (Jeffay) at 1208:9-13. TLS was disclosed to the examiner during patent prosecution. *E.g.*, JX-0002 (186 patent) at References Cited (“RFC2246 The TLS Protocol, Jan. 1999”).

Stevens is a textbook covering, among other topics, “client-server transaction[s].” RX-0512.0021. Stevens teaches using a “timeout” to solve certain communication problems, where

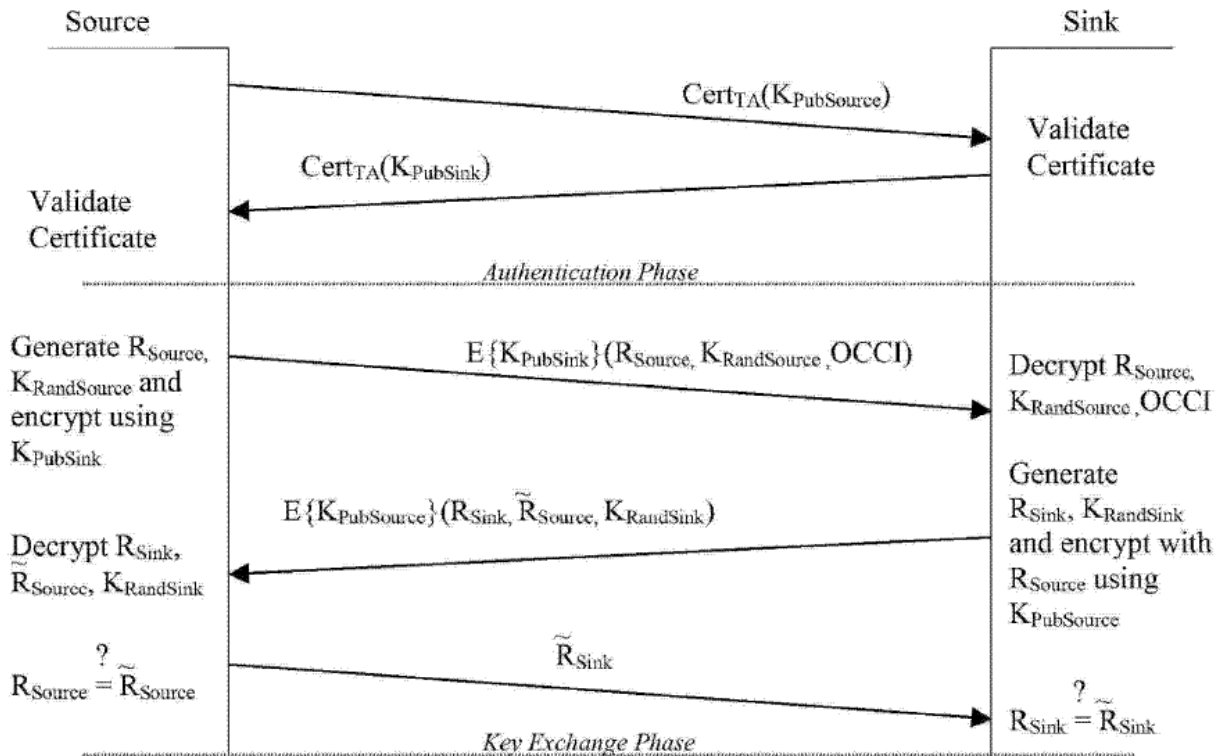
[REDACTED]

the timeout is used in conjunction with the round trip time of a signal transmitted by the client. *Id.* at .0023-.0026.

2. **Claim 1 – OCPS**

Many of the elements of claim 1 of the 186 patent and claim 1 of the 564 patent are disclosed in OCPS. It teaches a first device (“source device”) and a second device (“sink device”), where the first device sends protected content to the second device (the purpose is “copy protection of content”). RX-0893.0014-.0015. It teaches use of hardware, including “specially constructed secure processing chips,” that are types of processor circuits, and it would be “generally understood” to a skilled artisan that software would be implemented on such hardware. *Id.* at .0020, .0033; Tr. (Black) at 1013:13-1014:1; *see* Tr. (Jeffay) at 1176:10-25. It teaches transmission of a certificate (“X.509 certificate” containing a “public key and digitally signed by a [Trust Authority]”) from the second device to the first device, followed by transmission of a first signal (a signal that includes an encrypted “random number” generated by the source device, as well as encrypted “true random key material” and “[OCPS Copy Control Information] bits”) from the first device to the second device. RX-0893.0015, .0018. It teaches that the second device generates a second signal (a signal that has encrypted a “random number” and “true random key material,” both generated by the sink device, combined with the random number generated by the source device) and provides the second signal to the first device (“sent to the source device”). *Id.* at .0018. And it teaches providing protected content (in the “information transmission” stage the “AV material” is “encrypt[ed]”) from the first device to the second device after a comparison of the first signal-second signal round trip time to a predetermined threshold time (“the protocol is terminated” if the round trip time for the source-generated random number exceeds one millisecond). *Id.*

So OCPS comes close to possessing all the elements of claim 1 of both patents. This is summarized in Figure 1 of the OCPS specification:



RX-0893.0017. There are, however, three disputed limitations: whether the second signal is “derived from a secret” (*see* CIB at 145-48), whether the “predetermined time” element is negated because the disclosed time threshold renders OCPS inoperative (*see id.* at 148-49), and whether the disclosed certificate “indicates that the second device is compliant with at least one compliance rule” (*see* SIB at 34-44).

As for the first disputed term, “derived from a secret,” Respondents identify the secret as the random number generated by the source device, designated “Rsource” in OCPS. *See* RIB at 127. Complainants contend that Rsource is merely a nonce that is not secret. *See* CIB at 145-46. Whether it is a nonce is beside the point, because the specification of the asserted patents discloses an embodiment where a random number generated by the first device suffices as the secret: “the first device 201 exchanges a secret with the second device 203, which e.g. could be performed by

[REDACTED]

transmitting a random generated bit word to second device 203.” JX-0002 (186 patent) at 5:33-35. Rsource is a random number generated on the spot by the source device, encrypted for transmission to the sink device, and then re-encrypted for transmission back to the source device; this qualifies it as a “secret” under the term’s plain and ordinary meaning. See RX-0893.0018; *Markman* Order at 26. Moreover, dependent claims of both patents recite “wherein the secret comprises a random number.” JX-0002 (186 patent) at cl. 13; JX-0003 (564 patent) at cl. 8. Admittedly, the specification also discloses a cryptographic key as the secret, but that is only one embodiment, and it is explicitly contingent on use of the particular procedure “specified in ISO 11770-3.” JX-0002 (186 patent) at 6:9-15 (“we . . . can do secret key exchange” where “K is a secret to be exchanged”). Complainants’ remaining, miscellaneous arguments are beside the point: that the secret recited in dependent claim 11 of the 186 patent is transmitted according to a key transport protocol or key agreement protocol (suggesting that the secret must be a cryptographic key) is not relevant to claim 1, that the sink device’s own random number (“Rsink”) is not kept secret has no bearing on whether Rsource is kept secret, and that “secret” may mean something different outside the context of claim 1 is immaterial. See *Markman* Order at 18; CIB at 147-48; CRB at 69-70.


As for the second disputed term, Complainants contend that OCPS is inoperative, and so does not provide an enabling disclosure, and therefore cannot anticipate any claims in suit. See CIB at 148-49. It is true that a prior art reference must be enabling to be anticipatory, but it need only “enable subject matter that falls within the scope of the claims at issue.” *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1381 (Fed. Cir. 2003). *In re Antor Media Corp.*, 689 F.3d 1282 (Fed. Cir. 2012), is particularly pertinent. In *Antor Media*, the claims covered a “[m]ethod of receiving information . . . via a high data rate telecommunication network,” and the prior art

[REDACTED]

reference disclosed a similar method involving data transmission rates that were “far beyond the level of ordinary skill” as of the priority date. 689 F.3d at 1285, 1290. The Federal Circuit held that “whether the maximum data-bit rates recited in [the prior art reference] were beyond the level of ordinary skill in 1989 is not the relevant inquiry.” *Id.* at 1290. Instead, the relevant inquiry is whether the reference enables “the portions of its disclosure alleged to anticipate the claimed invention.” *Id.* Because the prior art reference disclosed a “high data rate telecommunication network” as that term was used in the claim, the Federal Circuit held that “Antor [had] not shown that undue experimentation would be needed to practice” the high data rate telecommunication network element “based on [the prior art reference’s] disclosure.” *Id.* at 1290-91.

OCPS satisfies this standard. It is apparently disputed whether OCPS’ technical requirements – in particular, the combination of a particular encryption method and a round trip time of one millisecond or less – were beyond the capability of any system as of the priority date. *See* Tr. (Black) at 1070:20-1071:11. But even assuming they were, the claims do not recite any particular round trip time, they only recite “a predetermined time,” which has been construed broadly. *See Markman* Order at 23 (“any determination as to whether the relevant time difference is less than a predetermined time satisfies this particular claim limitation”). So it is immaterial that OCPS is inoperative in light of its disclosed encryption method and particular predetermined time threshold.

Neither case on which Complainants rely is to the contrary. *See* CIB at 148. In *Raytheon Techs. Corp. v. General Electric Co.*, 993 F.3d 1374, 1378 (Fed. Cir. 2021), the claims in suit covered a gas turbine engine having certain features, including a “power density” falling within a specific numerical range. The asserted prior art reference was a NASA technical memorandum describing superior performance characteristics for an “imagined” turbofan engine that could not



have been constructed as of the priority date. *Id.* at 1378. The Federal Circuit held that there was insufficient evidence “that a skilled artisan could have made the claimed turbofan engine with the recited power density,” even considering the prior art reference. *Id.* at 1382. In other words, the claimed invention required a particular numerical performance parameter, and the prior art reference did not enable that parameter; here, by contrast, the prior art reference discloses a particular numerical performance parameter, as to which the claims in suit are agnostic.

In *Helifix, Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1341-42 (Fed. Cir. 2000), the claim in suit covered a method of securing multiple layers of masonry in a structure by drilling pilot holes and then using a “driving tool” to insert a “helical tie member” into the holes. The asserted prior art reference was a brochure that generally described the claimed method, including mention of an “insertion tool” and a line drawing of a portion of such a tool. *Id.* at 1343-44. The patentee presented evidence that it “had a difficult time developing a [driving] tool” and that the claimed invention was still in development at the time the brochure was first published, while the accused infringer “failed to provide clear and convincing evidence” that a POSITA “could have made or obtained a tool capable of being used in the claimed method without an undue amount of experimentation,” so the Federal Circuit held that the prior art brochure was not enabling. *Id.* at 1348-49. In other words, the claimed invention could not be practiced without a separate element that was neither adequately disclosed in the prior art reference nor within the knowledge of a skilled artisan; here, by contrast, there is no allegation that the claimed invention is not enabled.

Moreover, both *Raytheon* and *HeliFix* imposed the burden on the challenger to prove the prior art was enabling. 993 F.3d at 1382; 208 F.3d at 1349. Respondents offer no evidence that “determin[ing] . . . whether the relevant time difference is less than a predetermined time,” with

[REDACTED]

no particular predetermined time or time difference, was outside the skill of a POSITA. *Markman* Order at 23. In fact, Stevens discloses precisely that. *See* RX-0512.0023-.0026.

So both the “derived from a secret” and “predetermined time” elements are present in OCPS; the same cannot be said for the “certificate [indicating] complian[ce] with at least one compliance rule” limitation, however. The term “certificate” has been construed as “information containing at least the entity’s distinguishing identifier and public key, and signed by a certification authority to guard against forgery.” *Markman* Order at 18. OCPS discloses such a certificate. *See* RX-0893.0023-.0024 (identifying certificate “attributes” including “SerialNumber” and “SubjectPublicKeyInfo,” as well as a “Signature” that is “created by the [Trust Authority]”). OCPS also specifies compliance rules, with which licensees must comply. *See id.* at .000.0006-.0009. However, the certificate must also “indicate[] that the second device is compliant” with at least one compliance rule. JX-0002 (186 patent) at cl.1. Respondents’ best evidence of this comes from Dr. Jeffay, who opined that “Philips is the one issuing licenses, including certificates,” and “is the unique, exclusive trust authority for OCPS.” Tr. (Jeffay) at 1181:25-1182:7. The OCPS license does state that Philips will sell “device certificates,” but it does not say that only Philips-issued device certificates will be accepted by source devices running the OCPS protocol. RX-0893.0002. In fact, the OCPS specification suggests that any Trust Authority’s certificate will meet the protocol’s requirements. *See* RX-0893.0015 (a Trust Authority is one of a “set of secure trusted third parties”), .0023 (the “Issuer” attribute is defined as the “TA official name”). So Dr. Jeffay’s characterization of the OCPS protocol is incorrect. Moreover, although the OCPS specification discloses using a Philips-issued certificate, it does not disclose using one to indicate compliance with OCPS compliance rules; if it did, it would either

[REDACTED]

explicitly say so or it would explicitly prohibit use of certificates issued by entities other than Philips.

Therefore, OCPS fails to disclose the “certificate indicates that the second device is compliant with at least one compliance rule” element, and accordingly does not anticipate claim 1 of the 186 patent or claim 1 of the 564 patent.

3. **Claim 1 – TLS**

TLS, too, discloses many of the elements of claim 1 of the 186 patent and claim 1 of the 564 patent. It teaches a first device (“client”) and a second device (“server”), where the first device sends content to the second device (the purpose is “secure communication over a network”). RX-0359.0029; RX-7142-0001. It teaches use of hardware, including a “CPU,” that incorporates a processor circuit, and a skilled artisan would understand that software would be implemented on such hardware. RX-0359.0005; *see* Tr. (Black) at 1040:20-1041:14; Tr. (Jeffay) at 1218:5-18. It teaches transmission of a certificate (“the server will send its certificate”) from the second device to the first device, where the certificate may contain a public key and is of the same type as in OCPS (“X.509”), and so is signed by a certification authority and contains the device’s identifier, followed by transmission of a first signal (“ClientKeyExchange”) from the first device to the second device. RX-0359.0030-.0031, .0037-.0038. It teaches that the second device generates a second signal (“Finished”), which is derived from a secret (the premaster secret is used to generate the master secret, and “[t]he master_secret is required to generate the . . . finished messages”), and provides the second signal to the first device. *Id.* at .0031, .0047, .0069. And it teaches thereafter providing content (“application data”) from the first device to the second device. *Id.* at .0046.

So TLS comes close to possessing all the elements of claim 1 of both patents. This is summarized in Figure 1 of TLS protocol:

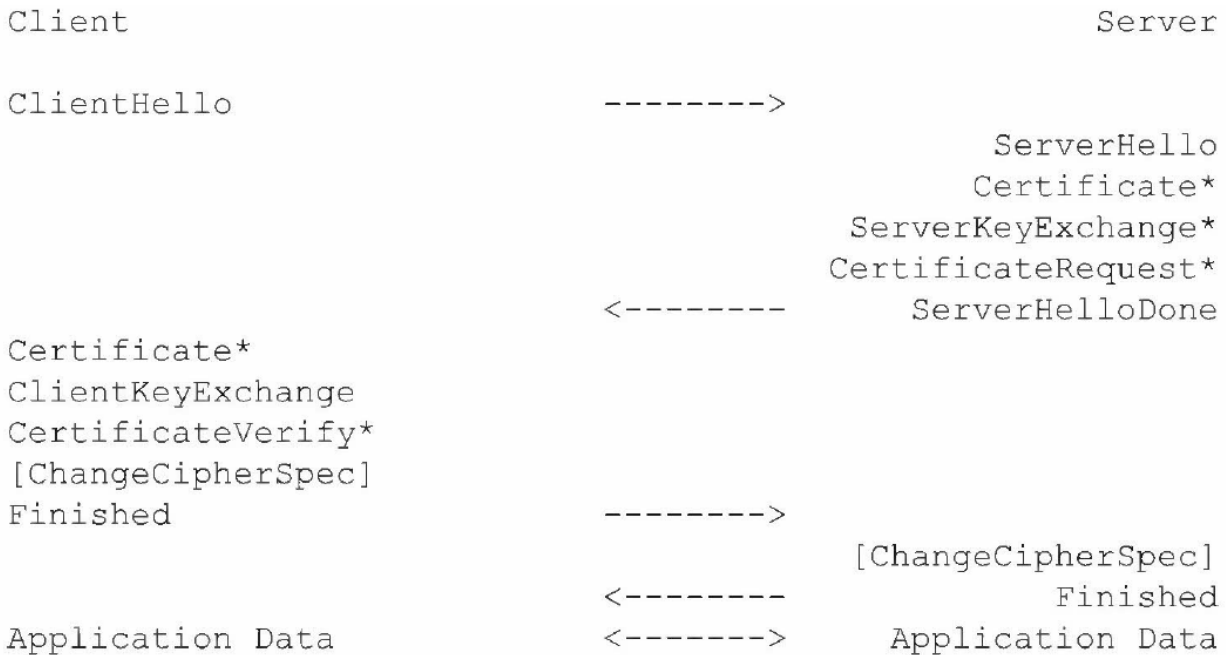


Fig. 1 - Message flow for a full handshake

RX-0359.0031. Respondents do not assert that the “predetermined time” element is found in TLS, either expressly or inherently, and their argument thus focuses on obviousness. *See* RIB at 148-49. In particular, they argue that the use of a “timeout,” as allegedly would have been known to a skilled artisan and as is expressly disclosed in Stevens, satisfies this element. *See id.* (citing RX-0512.023, .026). Complainants suggest that Stevens does not disclose this element, because Stevens teaches updating the predetermined time “dynamically.” *See* CRB at 79 (citing RX-0512.26). The fact that the predetermined time may change, however, has no bearing on whether Stevens discloses a predetermined time, which it plainly does. *See* RX-0512.0023 (describing “timeout”); Tr. (Williams) at 1527:18-21.

The parties’ more serious disputes are over two other limitations: whether the content transmitted qualifies as “protected content” (*see* CIB at 151-52; SIB at 78-80), and whether the disclosed certificate indicates the second device’s “complian[ce] with at least one compliance rule” (*see* CIB at 153; SIB at 78). The first disputed limitation presents a question of claim construction,

[REDACTED]

as Staff explains: “the plain and ordinary meaning of ‘protected content’ does not . . . mean simply content that is protected . . . or data (such as a PDF document) that is protected by encryption and authentication.” SIB at 80. Unfortunately, neither Staff nor Complainants, who otherwise seemingly agree with Staff, propose an alternative interpretation. *See id.* at 78-80; CIB at 151-53. Mr. Williams testified that a “content protection system” involves “content” and “an owner or a license holder [who] can disallow certain uses,” where “the user might be granted rights to transfer, to move or to copy, to handle [the content] according to certain usage rules.” Tr. (Williams) at 1445:7-22. The claim language, though, pertains to the conditions on a user (represented by the second device) receiving the content, not on what the user does with it thereafter.

Dr. Black testified that “content” means “data that are destined, that are intended, for consumption by a user,” and that the content is “protected” when there is “encryption and authentication.” Tr. (Black) at 1041:24-1042:12. This comes closer to the claim language, because the operations the claimed devices perform involve authentication and then transmission of content to a user (again, represented by the second device). But no encryption is required by the claim language; the only limitation on the protected content is that it is “provide[d]” or “receive[d]” after the authentication-related claim elements have been satisfied, namely, checking the certificate, checking that the second signal is derived from a secret, and checking the round trip time is less than a predetermined time. Although the specification suggests that encryption is “typical[,]” there is no additional encryption requirement in the claim, and there is no other element in which the “secret” is used, so the “protected content” may, but need not, be encrypted when transmitted from the first device to the second device. JX-0002 (186 patent) at 2:9-10 (transfer of content is “typically . . . performed in an encrypted way”).

[REDACTED]

By contrast, Dr. Jeffay’s opinion, that “protected content” means “content that is protected,” accords with the plain and ordinary meaning of the term. Tr. (Jeffay) at 1209:11-20. To be sure, the specification focuses on “[d]igital media” and “copy protection and [digital rights management],” but nothing in the claim language requires that the protected content be any particular kind of content. *See* JX-0002 (186 patent) at 1:42-65. And no party points to evidence of disavowal or lexicography, so Dr. Jeffay’s proposed interpretation is presumptively the correct one. Therefore, “provide/receive the protected content to/from the second/first device” is construed as “provide/receive the content that is protected to/from the second/first device.”

So construed, it is clear that the “application data” in TLS qualifies as protected content. TLS transmits non-protected content in the course of carrying out its protocol; for example, the client and server exchange various messages, including “Finished.” *See* RX-0359.0031. But once the protocol is complete, TLS teaches the exchange of “application data” using the secure channel TLS has just established. *See id.* at .0046 (once the “Finished” messages have been successfully exchanged and validated, the TLS devices “may begin to send and receive application data over the connection”). And although encryption is not required, the fact that the application data is encrypted demonstrates that it is protected. *See* RX-7142-0002 (“TLS uses . . . secret key cryptography . . . to provide for privacy and data integrity.”).

So the “protected content” limitation is disclosed in TLS; as with OCPS, however, the “certificate indicat[ing] . . . complian[ce] with at least one compliance rule,” the second disputed limitation, is not. Respondents offer no evidence that the certificates disclosed in TLS indicate that the “second device is compliant” with at least one compliance rule, and instead simply assert that checking the validity of the certificate satisfies this element, which it does not. *See* RIB at 145 (citing Tr. (Black) at 1048:13-21; Tr. (Jeffay) at 1220:13-1223:3). Moreover, Mr. Williams

[REDACTED]

testified that the TLS certificates “have [no]thing to do with content protection” because “it’s up to the application layers that are not defined” in TLS. Tr. (Williams) at 1446:7-12.

In summary, TLS discloses close to all the elements of claim 1 of the 186 patent and claim 1 of the 564 patent, Stevens discloses the predetermined time element, and no cited reference discloses the “certificate indicat[ing] . . . complian[ce] with at least one compliance rule” element. Because Respondents offer no evidence that this last element is present in either TLS or Stevens, on the present record “the prior art simply does not disclose” it, which weighs heavily against obviousness. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991).

Philips also argues that there is no motivation to combine TLS and Stevens, and that TLS teaches away from such a combination. *See* CIB at 151-54. It is true that the motivation to combine is weak at best; Dr. Black’s testimony that it would be obvious to add a timeout toward the end of the TLS protocol is believable, but only because timeouts are a generally good practice, not because the timeout aids in authenticating the second device, which is what a skilled artisan would understand as its purpose in light of the specification. *See* Tr. (Black) at 1057:8-19. Similarly, Dr. Jeffay testified that “best practices in networking” involves “always . . . setting a timer,” but as a solution to a lost message or the other computer not responding, not as an authentication technique. Tr. (Jeffay) at 1225:13-1226:12. Admittedly, using a timeout satisfies the claim language, but only by happenstance, because it solves a different problem than the one outlined in the specification. On the other hand, TLS does not clearly teach away from combining its protocol with a timeout. It may well be that adding a single timeout would increase CPU usage and “extraneous network traffic,” as Mr. Williams testified, but presumably it would also increase the overall efficiency and effectiveness of the protocol. Tr. (Williams) at 1448:14-1449:2.

[REDACTED]

On balance, in light of the scope and content of the prior art, the knowledge of one skilled in the art, and the differences between the claimed invention and the prior art, Respondents have not made out a prima facie case that claim 1 of the 186 patent or claim 1 of the 564 patent would have been obvious. Of heaviest weight in this analysis is the complete lack of the “certificate” element in the cited prior art, and of lighter weight is the tepid motivation to combine TLS and Stevens, and the fact that TLS was disclosed to the patent examiner.

4. **Dependent Claims**

Respondents assert that dependent claims 11, 12, and 14 of the 186 patent, and dependent claims 18, 19, and 21 of the 564 patent, are anticipated by OCPS. *See* RIB at 135-136. These three claims add, respectively, the limitations of “instructions arranged to provide/receive the secret to/from the second/first device,” “the second signal comprises the first signal modified by the secret,” and “the secret is encrypted with a public key.” *See* JX-0002 (186 patent) at cls. 11, 12, 14; JX-0003 (564 patent) at cls. 18, 19, 21. Respondents further assert that dependent claim 25 of the 564 patent, which adds the limitation that “the secret is used for generating a secure channel between the first device and the second device,” is anticipated by OCPS. *See* RIB at 136.

Again, Respondents identify the secret as “Rsource,” which is sent from the first device (“source”) to the second device (“sink”) after being encrypted using the sink’s public key, and the transmission uses a key transport protocol, which falls within the construed scope of claim 11 of the 186 patent. *See* RX-0893.0018; Tr. (Jeffay) at 1188:10-1189:4; *Markman* Order at 18. And as with infringement, the use of Rsource as a prerequisite to generating the session key (which is not itself directly generated using Rsource) satisfies the requirement of claim 25 of the 564 patent that the secret be “used for generating a secure channel.” *See* RX-0893.0018.

However, OCPS does not teach that the second signal comprises the first signal modified by the secret. In OCPS the second signal consists of three components, all encrypted together

using the public key of the source: two sink-generated numbers (“Rsink” and “Krandsink”) and the secret (“Rsource”). *See* RX-0893.0018. The second device obtains the secret by decrypting the first signal, extracting Rsource, and then ignoring the other data comprising the first signal. *See id.* In other words, a single portion of the first signal (“Rsource”) is modified by combining it with entirely new data and then encrypting the combination with a different key than was used to transmit the first signal. Respondents’ experts agree that this is the process disclosed, but their opinions that this qualifies as the “second signal comprises the first signal modified by the secret” are conclusory and unpersuasive. *See* Tr. (Jeffay) at 1188:19-1189:4 (the first signal is “modified” by “extract[ing] out Rsource . . . to construct the new message”); Tr. (Black) at 1028:11-25 (“the modification includes pulling Rsource out, repackaging it with two new values, Rsink and Krandsink, and putting those together”).

Therefore, the “second secret comprises the first signal modified by the secret” element is missing from OCPS. Moreover, as explained above, the “certificate” element is also missing from OCPS, and by virtue of dependency it is an essential element of all asserted claims. Therefore, Respondents have not shown that claims 11, 12, and 14 of the 186 patent or claims 18, 19, 21, and 25 of the 564 patent are anticipated by OCPS.

Respondents contend that dependent claim 9 of the 186 patent would have been obvious in view of the combination of OCPS and Caputo. *See* RIB at 134. Claim 9 depends from claim 1 and additionally requires:

wherein determining that the second signal is derived from the secret comprises:
modifying the first signal, wherein the modifying requires the secret; and
determining that the modified first signal is identical to the second signal.

JX-0002 (186 patent) at cl. 9. In the preferred embodiment of this element, “the first signal and the common secret are bit words,” both devices “know how the first signal is [] modified using the common secret,” the second signal “comprises information [] generated” by modifying the first

[REDACTED]

signal using the common secret, the first device “generat[es] a third signal by modifying the first signal according to the common secret,” and the first device then “compar[es] the third signal with the received second signal.” *Id.* at 3:27-36. Caputo discloses a similar process: a random number is generated by a first device and is transmitted to a second device, the second device encrypts the random number with a key shared by the devices (optionally after modifying the random number using a PIN), the second device sends the encrypted random number back to the first device, the first device in the meantime encrypts the random number itself using the key, and “[i]f the two [encrypted] messages match, then the user is considered to be properly authenticated.” RX-0013 (Caputo) at 13:34-59, Fig. 5A.

So Caputo discloses the additional limitation of claim 9. But Dr. Jeffay’s proposed modification of OCPS to add Caputo’s authentication process renders the method inoperative, because the modified first signal and the second signal in OCPS are never the same (except possibly by happenstance). The first signal in OCPS is a combination of Rsource, Krandsource, and OCCI, all encrypted using the sink’s public key; the second signal is a combination of Rsource, Rsink, and Krandsink, all encrypted using the source’s public key. *See* RX-0893.0017. The two signals both include an encrypted version of the secret, Rsource, but they are otherwise entirely different. Dr. Jeffay’s proposed modification alters the algorithm disclosed in OCPS by adding a Caputo-like modification, not to the first signal, but to the secret. *See* Tr. (Jeffay) at 1198:5-25 (citing RDX-0004C.235). This proposed modification accordingly makes no difference, because the first signal, modified as Dr. Jeffay proposes, is never “identical” to the second signal. Therefore, in view of the scope and content of the prior art, the knowledge of one skilled in the art, and the differences between the claimed invention and the prior art – especially the fact that OCPS as modified does not satisfy the claim language, and the lack of a disclosed certificate –

[REDACTED]

Respondents have not made out a prima facie case that claim 9 of the 186 patent would have been obvious.

Respondents assert that the dependent claims in suit are obvious under the combination of TLS and Stevens. *See* RIB at 150-53. Neither of the independent claims would have been obvious in light of that prior art combination, so the dependent claims similarly would not have been obvious. *See Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1365 (Fed. Cir. 2008). Moreover, for claim 9 of the 186 patent, Dr. Jeffay opined that “the first signal [is] the premaster secret,” but for claim 1 he opined that the first signal is “ClientKeyExchange” and the secret is the premaster secret; his opinion that the additional element of claim 9 is disclosed in TLS is thus unpersuasive. Tr. (Jeffay) at 1224:14-1225:6, 1233:15-20. And Dr. Black’s testimony regarding the limitation added by claim 12 of the 186 patent and claim 19 of the 564 patent, that “the second signal comprises the first signal modified by the secret,” is vague and similarly unpersuasive; TLS clearly discloses modifying (specifically, decrypting) the first signal to obtain the secret, but Dr. Black does not clearly explain how the first signal is then modified again by the secret. *See* Tr. (Black) at 1059:11-23 (“you receive the first message, you decrypt it, the secret is then inserted into this sequence of steps, two pseudorandom functions and then that process results in the Finished message”); RX-0359.0048 (“The server uses its private key to decrypt the pre_master_secret.”); JX-0002 (186 patent) at cl. 12; JX-0003 (564 patent) at cl. 19. Otherwise, the limitations added by the dependent claims are disclosed in TLS: the secret (“premaster secret”) is encrypted using the public key of the second device (“server”) and then sent to the second device (*see* RX-0359.0044), and the secret is used to generate a secure channel between the two devices (*see* Tr. (Black) at 1034:15-1035:14). *See* JX-0002 (186 patent) at cls. 11, 14; JX-0003 (564 patent) at cls. 18, 21, 25.

[REDACTED]

5. Secondary Considerations of Non-Obviousness

Philips relies on three secondary considerations to rebut obviousness: commercial success, unexpected results, and praise and adoption by others. *See* CIB at 155-57. The bulk of their argument, however, presupposes that the Accused Products and DI Products embody the asserted claims, which as explained above is not proven. Therefore most of the secondary considerations are also unproven because of a lack of nexus to the asserted claims.

There is nonetheless some evidence of commercial success arising from Philips' licensing program and that is not predicated on any particular embodiment. *See* CIB at 155. Philips' licensing program pertaining to the general subject matter of handheld devices, personal computers, televisions, and set top boxes has indeed been successful, [REDACTED]

[REDACTED] *See* Tr. (Wieghaus) at 40:14-41:4, 57:24-58:5, 85:24-86:2; *see generally* CX-0204C; CX-0205C. Although Respondents complain that there is no nexus to the asserted patents, it was Philips' practice, quite reasonably, to license [REDACTED]

[REDACTED] *See* Tr. (Wieghaus) at 105:25-107:6. And some licenses expressly recite the asserted patents. *E.g.*, CX-0555C.0005, .0016 ([REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]); CX-0560C.0003, .0006-.0007 ([REDACTED]

[REDACTED]). Such evidence demonstrates enough commercial success to weigh against a finding of obviousness, even if (as explained below) the expenses associated with the licensing do not meet the exacting standards required to prove the existence of a domestic industry.

6. Summary

Respondents have not shown anticipation of any claim by clear and convincing evidence. And in light of Respondents' failure to demonstrate a *prima facie* case of obviousness, combined

[REDACTED]

with Complainants’ evidence of commercial success, Respondents also have not shown obviousness of any claim by clear and convincing evidence.

C. Requirements of 35 U.S.C. § 112

1. Written Description

Respondents contend that all asserted claims fail to comply with pre-AIA 35 U.S.C. § 112(1) because the original specification does not contain a written description of all their elements, in particular, “predetermined time” and “certificate.” *See* RIB at 153, 165. Respondents further contend that, because of this defect with respect to “predetermined time,” the asserted claims are not entitled to a 2002 priority date and are accordingly “anticipated to the extent the HDCP 2.2 specifications are found to infringe.” *See id.* at 159. Respondents also contend that Phillips’ infringement position exceeds the scope of the properly-supported claims, but this has nothing to do with validity, and infringement-related arguments are discussed above. *See id.* at 159-65.

Pursuant to 35 U.S.C. § 112, a patent claim is invalid for lack of written description if the patent’s specification fails to “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). “[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art” (*id.*), and “the level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology” (*id.* (citing *Capon v. Eshar*, 418 F.3d 1349, 1357-58 (Fed. Cir. 2005))). Because a patent application is entitled to the benefit of the filing date of an earlier filed application “if the disclosure of the earlier application provides support for the claims of the later application,”

[REDACTED]

the resolution to both of Respondents' contentions turns on the written description inquiry. *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306 (Fed. Cir. 2008).

a. "predetermined time"

It is undisputed that the original, European application possessed substantially the same disclosure as the specification common to the asserted patents. *See* Tr. (Jeffay) at 1267:5-8. It is also undisputed that the specification discloses determining the "time between the providing/sending of the first signal and the receiving of the second signal," that is, the round trip time or time difference. JX-0002 (186 patent) at 2:61-3:8, cl. 1; JX-0003 (564 patent) at 2:61-3:8, cl. 1; *see* RIB at 154. The dispute is instead over whether there is adequate written description for the requirement that the claimed invention determine the round trip time to be "less than a predetermined time." *See* RIB at 154-55.

The written description focuses not on time, but on distance:

In 323 the distance is calculated between the first and second device; this could e.g. be performed by measuring the time, when the signal is transmitted by the transmitter 309 from the first device to the second device and measuring when the receiver 317 receives the signal from the second device. The time difference between transmittal time and receive time can then be used for determining the physical distance between the first device and the second device.

JX-0002 (186 patent) at 6:52-60. In fact, the expression "predetermined time" is not found in the specification, although the term "predefined distance" is: "the distance between the other device and the computer 103 is measured and only devices within a predefined distance . . . are allowed to receive the content." *Id.* at 5:4-8. Respondents accordingly contend that "a POSITA would not have understood that [the inventor] possessed other uses of round-trip time at the time of his original application." RIB at 159.

The evidence supports this contention. Admittedly, a skilled artisan would have been familiar with Stevens, and Stevens describes the "minimum possible" time for a client-server

transaction as “RTT + SPT,” the sum of the round trip time and the server processing time. RX-0512.0026. Stevens then cites a case study showing how round trip time is related to physical distance:

We implicitly assume that the path from the client to the server accounts for ½ RTT and the return path accounts for the other ½ RTT. This is not always the case. In a study of about 600 Internet paths, [Paxson 1995b] found that 30% exhibited a major asymmetry, meaning that the routes in the two directions visited different cities.

Id. Stevens did not elaborate on this, because there was no need to; a skilled artisan would have understood that for electronic signals time correlates to distance and distance correlates to time, that is, “time is . . . a proxy for distance.” Tr. (Williams) at 1459:14-1460:1. That a skilled artisan would understand this, and be able to quantify the correlation between time and distance, explains why there is no dispute that the patents’ specification is enabling even though it does not teach a specific method for using round trip time to “determine[e] the physical distance between the first device and the second device.” JX-0002 (186 patent) at 6:58-60.

But although the law does not require that any such claimed method be recited in the specification verbatim, the claimed method must be “actually or inherently disclose[d].” *PowerOasis*, 522 F.3d at 1306. And “inherently” in this context has the same meaning as in the context of infringement: “the missing descriptive matter must necessarily be present.” *Turbocare Div. of Demag Delaval Turbomachinery Corp. v. General Electric Co.*, 264 F.3d 1111, 1119 (Fed. Cir. 2001); see *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (“the specification must contain an equivalent description of the claimed subject matter”).

The record shows that a skilled artisan would have known at least two methods to determine whether the “predefined distance” requirement was satisfied based on the measured round trip time, what might be called a “forward” method and a “backward” method. Mr. Williams

[REDACTED]

describes the forward method: “the distance[] calculated between the first and the second device . . . could be . . . performed by measuring” the round trip time. Tr. (Williams) at 1459:14-1460:1. If that distance is within the “predefined distance,” then the second device is “allowed to receive the content.” *Id.* at 1460:12-1461:19. Dr. Jeffay describes the backward method: “a POSA could work backward from the predefined physical distance that was deemed acceptable for purposes of permitting access to protected content, and select a round-trip time interval to ensure this specific distance.” RX-0222 at ¶ 25.

And because neither of these two methods are mentioned in the specification, and the specification otherwise does not detail how to connect round trip time to physical distance, there is no way of knowing which method the inventor had in mind, or whether he had a different method in mind. In the forward method, one measures round trip time, determines the distance that time represents, and compares it to the predefined distance; in the backward method, one identifies the predefined distance, determines the round trip time that represents, and compares it to the measured round trip time. Only the backward method involves comparing times, as in the asserted claims, but both would be within the knowledge of a POSITA. More importantly, it is at least as likely that the inventor contemplated the forward method as the backward method, with the result being that the backward method is not necessarily present in the disclosure.

So the original specification does not adequately support the claims in suit. Complainants’ arguments against this conclusion are not persuasive. Again, although the law does not require a verbatim recitation of the claim language, the claimed elements must be at least “inherently,” or necessarily, disclosed in the specification. *PowerOasis*, 522 F.3d at 1306. So Dr. Jeffay’s testimony about “select[ing] a round-trip time interval,” which really pertains to enablement rather than the written description requirement, may be enough to survive a summary determination

[REDACTED]

motion, but it is not proof that the process he describes is necessarily found in the specification. *See* CIB at 158-59; RX-0222 at ¶ 25; *see Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (describing enablement). Mr. Williams’ testimony about Figure 1 of the specification, that the circle “is the predetermined time,” similarly does not necessarily show predetermined time, because the specification clearly states that the circle represents “predefined distance.” *Compare* Tr. (Williams) at 1461:22-24 *with* JX-0002 (186 patent) at 5:7-8; *see* CIB at 159. Similarly, even accepting Complainants’ syllogism as valid, it is beside the point. *See* CIB at 160. Again, a skilled artisan could predetermine the distance and select a corresponding round trip time, or measure the round trip time and compare it to the desired predetermined distance; both would seem to fall within the scope of the syllogism, but neither are necessarily present in the disclosure. Lastly, the other expert evidence on which Complainants rely have no clear relevance to whether “predetermined time” is necessarily disclosed. *See* CIB at 160-61 (citing CX-0494C; CX-0503).

The result of finding a violation of the written description requirement, at least in this instance, is that the patents are only entitled to a priority date corresponding to when the written description requirement was actually satisfied, that is, when the material in question was added to a prior patent application. *See PowerOasis*, 522 F.3d at 1306. It is undisputed that that occurred on January 29, 2014, during prosecution of what became U.S. Patent No. 8,886,939. *See* RX-0098.444, .458 (amending the relevant claim language to read “when said time difference indicates the round trip time is less than a predetermined time threshold”); RIB at 9.

Based on this 2014 priority date, Respondents argue that the asserted claims are “anticipated to the extent the HDCP 2.2 specifications are found to infringe,” because those specifications were published in 2012. RIB at 159. There are two problems with this argument.

[REDACTED]

First, although there are versions of the “HDCP 2.2” specification in evidence that are dated 2012, the one on which Complainants principally rely is dated February 13, 2013. *Compare* CX-0233 (February 13, 2013) *with* RX-0385 (October 16, 2012). The various versions of the HDCP specification may be substantively identical, but Respondents make no effort to demonstrate that. Moreover, although the 2012 versions might qualify as prior art under pre-AIA 35 U.S.C. § 102(b), the February 13, 2013 version does not, because it is dated less than one year before the priority date of January 29, 2014. *See* 35 U.S.C. § 102(b) (pre-AIA). And proving that the 2012 versions qualify as prior art under pre-AIA 35 U.S.C. § 102(a) requires proof that the publication date was “before the invention thereof,” which is not an issue addressed by Respondents (or any other party). *See* 35 U.S.C. § 102(a) (pre-AIA).

Second, the HDCP specifications have not, by themselves, been found to infringe. Plainly Philips relies heavily on them, but the only articles found to infringe are those products containing [REDACTED], which did not even exist until after the initiation of this investigation. To be sure, the 2012 versions of the HDCP specifications may well disclose all the elements of the asserted claims, but Respondents make no effort to demonstrate that.

Therefore, the claims in suit are entitled to a priority date of January 29, 2014, but have not been proven invalid based on that priority date, are not invalid for lack of written description of the “predetermined time” element.

b. “certificate” indicating compliance

Respondents also argue that the “certificate” element lacks written description support. *See* RIB at 165. Specifically, they argue that although a certificate is disclosed, and checking that the second device is compliant is disclosed, the “specification does not disclose them together, and certainly does not describe a certificate that indicates” the second device’s compliance with a compliance rule. *Id.* (emphasis omitted).

[REDACTED]

Claim 1 of the 186 patent and claim 1 of the 564 patent both require the execution of instructions arranged to provide or receive the first signal when the second device's "certificate indicates that the second device is compliant with at least one compliance rule." JX-0002 (186 patent) at cl. 1; JX-0003 (564 patent) at cl. 1. The specification generally describes the process for "authenticated distance measurement": "In step 205 the first device 201 authenticates the second device 203; this could comprise the steps of checking whether the second device 203 is a compliant device and might also comprise the step of checking whether the second device 203 really is the device identified to the first device 201." JX-0002 (186 patent) at 5:27-32.

Checking for compliance means checking for compliance with compliance rules: a "device is compliant" when it "is compliant with a set of predefined compliance rules." *Id.* at 3:47-49. As noted, checking for compliance may be performed during the authentication process, and "could be performed using the protocols described in some known ISO standards." *Id.* at 5:63-65. In particular, "the first device 201 could authenticate the second device 203 according to the following" exchange of communications:

First device→Second device: $R_B || \text{Text 1}$
where R_B is a random number
Second device→First device: $\text{CertA} || \text{TokenAB}$
Where CertA is a certificate of A

Id. at 5:65-6:4. "CertA" combined with "TokenAB" is the only disclosed data communicated from the second device to the first device, so necessarily, checking for compliance must involve analyzing the certificate. *Id.* And Mr. Williams agreed that "the use of a certificate to indicate compliance with one or more compliance rules" was known in the art as of 2002. Tr. (Williams) at 1457:24-1458:11.

A fair reading of these passages of the specification is that authentication step 205 involves the second device sending a certificate to the first device, and the first device then analyzing the certificate to determine whether the second device is “compliant” with a set of predefined compliance rules and is properly identified. This is sufficient to satisfy the written description requirement. It may be, as Dr. Black testified, that “[c]ertificates aren’t normally used for that” purpose, but there is only one expressly disclosed authentication transmission from the second device to the first device, that transmission includes only two sets of data (a certificate and a token, and there is no evidence the token indicates compliance), and certificates were known to be used for the purpose of demonstrating compliance with compliance rules. Tr. (Black) at 999:10-1000:2. That the specification discloses the use of a certificate for a non-standard purpose or that is inconsistent with the ISO standard is irrelevant, because a skilled artisan, who would have been familiar with the non-standard use, would undoubtedly have understood that the inventor possessed the invention.

Therefore, the claims in suit are not invalid for lack of written description of the “certificate” element.

2. Indefiniteness of Claim 1 of the 564 Patent

As noted above, claim 1 of the 564 patent has been construed in two respects. First, the “when the first device determines . . .” element has been construed to be a condition that must be satisfied. Second, the “wherein” clause of element 1[e] has been construed in such a way that it has been given effect in element 1[f], that is, “wherein the second signal is received by the first device” has been construed to be another limitation of the condition. Therefore, construed element 1[f] reads:

receive the protected content from the first device when the second signal is received by the first device and the first device determines that the second signal is

[REDACTED]

derived from the secret and a time between the sending of the first signal and the receiving of the second signal is less than a predetermined time.

JX-0003 (564 patent) at 7:19-26. In addition, the receipt of the protected content is not an actual event that must occur, nor is the first device's determination an actual event that must occur; instead, the second device must have a "processor circuit arranged to execute instructions, the instructions arranged to" cause receipt of the protected content upon satisfaction of the condition. *Id.* at 7:8-9.

Respondents argue that claim 1 is indefinite because it claims both an apparatus and a method. *See* RIB at 172-75. Under 35 U.S.C. § 112, a patent claim is invalid for indefiniteness if "its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus*, 134 S. Ct. at 2124. It is true that indefiniteness can result from a single claim covering both an apparatus and a method of use of that apparatus. *See IPXL Holdings*, 430 F.3d at 1384. But the construction of element 1[f] avoids this problem by interpreting the "first device determines" limitation as a condition to be taken into account by the processor circuit's instructions, rather than a requirement that some actual event take place in a first device. Interpreting comparable language in other claim elements in a comparable way also suffices to avoid indefiniteness. *See* RIB at 173 (citing "when the certificate indicates" and "provide the second signal to the first device").


Therefore, the term "receive the first signal when the certificate indicates that the second device is compliant with at least one compliance rule" is construed as "the processor circuit's instructions arranged to receive the first signal when the certificate indicates that the second device is compliant with at least one compliance rule." JX-0003 (564 patent) at 7:8-16. Similarly, the term "provide the second signal to the first device after receiving the first signal" is construed as

[REDACTED]

“the processor circuit’s instructions arranged to provide the second signal to the first device after receiving the first signal.” *Id.* at 7:8-20. So construed, there is no apparatus/method confusion, and claim 1 is not indefinite on that basis.

Respondents also argue that “[a]bsent a ‘first device,’ there is simply no way to determine whether a ‘second device’ receives content after a ‘first device’ performs the recited determination,” and therefore the claim is not “sufficiently precise to permit a potential competitor to determine whether or not he is infringing.” RIB at 172 (citation omitted). Certainly the claim’s recitation of a “first device” makes it more difficult to parse than it would otherwise be, given that the claim itself is limited to a “second device,” but as noted in connection with infringement and domestic industry technical prong, it is possible (or, at least, it has been in this case) to determine whether a device falls within the scope of the claim. Dr. Stubblebine hinted at what may be the central difficulty introduced by the “first device” reference: the “second device is going to receive the content, whether that [predetermined time] determination indeed is actually performed or not.” Tr. (Stubblebine) at 915:23-916:18.

The solution to this difficulty is found in the specification, which discloses the desirability of “ensur[ing] that content will *only* be transmitted between devices if” certain conditions are satisfied. JX-0003 (564 patent) at 2:4-5 (emphasis added); *see id.* at 4:55-56 (“only devices being compliant with compliance rules can receive the secret”); *id.* at 5:7-10 (“only devices within a predefined distance . . . are allowed to receive the content”). This suggests that the various “first device”-related limitations should be understood as requiring instructions that, when executed, will enforce their related conditions. So if the second device’s instructions can be written in such a way that the content is received if and only if, for example, the “predetermined time” limitation is satisfied, then that part of the condition in element 1[f] would necessarily also be satisfied.



This understanding of the claim language – that the instructions are arranged to permit transfer of the protected content if and only if the recited conditions are satisfied – is implicit in the infringement analysis above, where it was found that there is no evidence that the Accused Receiver Products’ processor circuits could ascertain the difference between a transmitter that had successfully performed the round trip time check and one that had not. An explicit construction of the claim language consistent with this understanding gives effect to this implied requirement, and gives effect to the various “first device”-related conditions. So construed, therefore, element 1[f] reads:

receive the protected content from the first device when *and only when* the second signal is received by the first device and the first device determines that the second signal is derived from the secret and a time between the sending of the first signal and the receiving of the second signal is less than a predetermined time.

JX-0003 (564 patent) at 7:19-26 (emphasis added). The other elements at issue are construed similarly: “when and only when the certificate indicates . . .” and “provide the second signal to the first device after and only after receiving the first signal . . .”

Under this construction, it stands to reason that a skilled artisan could establish whether an existing article infringes or not (as relevant to this issue) simply by examining the source code. Thus, if the second device is programmed to receive and decrypt the protected content (e.g., by executing the Recv_SKE_Eks and TEE_Compute_k_s functions) merely upon receipt of a session key (e.g., contained in the SKE_Send_EKS message), without more, the device would fall outside the scope of the claims. As noted, this is exactly how the Accused MediaTek-Based Receiver Products are programmed. Conversely, if the second device is programmed to reject the protected content unless the second device receives confirmation that the various conditions have been satisfied, the device would fall within the scope of the claims.

[REDACTED]


Exactly what constitutes such “confirmation” is not addressed by the parties or the expert witnesses, of course, but the record suggests at least two possibilities. First, as noted, the HDCP specification requires an I2C bus when an HDMI connection is used, and that involves “I2C acknowledgement” for every message. Tr. (Mitzenmacher) at 768:23-769:7 (“when you are sending out information, you have to have an acknowledgment back”). It seems likely that a skilled artisan could program a second device to require receipt of such an I2C acknowledgement, supplemented by information indicating that the first device has met the appropriate condition, before the second device carries out its next programming step. Thus, for example, the second device could be programmed to require an acknowledgment specifically confirming that the second signal has been received by the first device, and possibly even including the first device’s round trip time timestamps, before accessing the protected content. See JX-0003 (564 patent) at 7:20-21.

A second possibility is disclosed in OCPS, where one component of the second signal is R_{sink} , a random number used in a manner mirroring the use of R_{source} (the first signal):

The source then compares the received R_{source} with the random number just sent. If they are equal the source sends the random value, R_{sink} back to the sink. The sink then compares the received R_{sink} with the random number just sent. This completes the key exchange phase.

At this point the time needed for R_{sink} to make the round trip is measured against an accepted maximum threshold of 1 milliseconds. If the round trip time is greater than the maximum time allowed and the OCCI forbids non-local transmission then the protocol is terminated by the sink device.

RX-0893.0018. That is, the receiver/second device may use R_{sink} to confirm that it sent the second signal to the same transmitter/first device with which it has been communicating from the beginning, that the second signal was received by the first device, and that the round-trip time is less than the same predetermined time employed by the first device.



Such a procedure seems likely to satisfy the corresponding claim conditions. And although the use of Rsink is not disclosed in the specification of the 564 patent, one disclosed embodiment is consistent with such a “mirror image” arrangement. Specifically, a “communication device” (as opposed to a “first device” or “second device”) is disclosed, comprising hardware that would be needed by either device, and that could be “placed inside devices” that include both potential source devices (“computer”) and sink devices (“television”). *See* JX-0003 (564 patent) at 6:61-7:3. Also, the claim language only requires that the “certificate indicates” condition must be satisfied, not that is must be satisfied by the first device analyzing the certificate, so there would seem to be no barrier to the second device simply confirming on its own that its certificate indicates compliance with a compliance rule. *See id.* at 7:14-16.

So a skilled artisan could seemingly practice claim 1 of the 564 patent by, in essence, programming the second device to carry out the required functions only upon receipt of a message, such as an acknowledgment message or a number like Rsink, confirming that the first device has met the claimed condition. More to the point, in view of its revised construction a skilled artisan can ascertain the scope of claim 1 of the 564 patent, and can program the claimed second device to either perform or not perform the claimed functions. On balance, therefore, Respondents have not shown by clear and convincing evidence that claim 1 of the 564 patent is invalid as indefinite.⁸

VIII. DOMESTIC INDUSTRY - ECONOMIC PRONG

In a patent-based investigation, a violation of Section 337 can be found “only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2). Under Commission precedent, this

⁸ Because the revised construction of claim 1 is narrower than the construction applied above, the revised construction does not alter the infringement and domestic industry technical prong analyses, or the other invalidity analyses.

[REDACTED]

“domestic industry requirement” of Section 337 consists of an economic prong and a technical prong. *Stringed Instruments*, Inv. No. 337-TA-586, Comm’n Op. at 12-14. The complainant bears the burden of establishing that the domestic industry requirement is satisfied. *See Certain Set-Top Boxes and Components Thereof*, Inv. No. 337-TA-454, Initial Determination at 294 (June 21, 2002) (not reviewed in relevant part).

The economic prong of the domestic industry requirement is defined in subsection (a)(3) of Section 337 as follows:

(3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark or mask work concerned –

(A) Significant investment in plant and equipment;

(B) Significant employment of labor or capital; or

(C) Substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3). The economic prong of the domestic industry requirement is satisfied by meeting the criteria of any one of the three factors listed above. The Commission has clarified that investments in plant and equipment, labor, and capital that may fairly be considered investments in research and development are eligible for consideration under subsections (A) and (B), in addition to subsection (C). *See Certain Solid State Storage Drives, Stacked Electronics Components, and Products Containing Same*, Inv. No. 337-TA-1097, Comm’n Op. at 14 (June 29, 2018) (“*Solid State Storage*”).

In this investigation, Complainants contend economic prong is met under subsection (C) through their own investments related to licensing of the Asserted Patents, and under subsections (A) and (B) through the investments of licensees Roku and Samsung. CIB at 163-164. Complainants contend all such domestic industries are “in existence” as opposed to “in the process

[REDACTED]

of being established. *See id.* As explained below, Complainants have not sufficiently shown a domestic industry under any of subsections (A), (B), or (C).

A. Qualifying Expenditures

1. Subsection (A) - Plant and Equipment

As to subsection (A), Complainants present only the alleged investments of licensee Roku. By way of background, Complainants explain “Roku’s business is organized into two segments: Platform and Players, both of which are indispensable to the operation” and “[t]he scope of the license included Roku’s set-top box and smart soundbar products, including the Roku DI Products, but does not extend to the Roku Software platform.” CIB at 183-184 (citing CX-0857.0056; Tr. (Putnam) at 484:19-485:7). Complainants consider [REDACTED]

[REDACTED]

[REDACTED] *See id.* at 184 (citing Tr. (Putnam) at 485:8-15; CX-0559C).

Complainants argue that [REDACTED] Roku engineers conduct research and development towards the licensed Roku DI Products (discussed further below in Subsection (B)) within offices located in [REDACTED]. *See* CIB at 189 (citing CX-0449C; CX-0450C; CX-0451C; CX-0857.0051, .0065; Tr. (Putnam) at 506:15-507:11). Complainants contend Roku made property and equipment investments at these locations in amounts of [REDACTED] for 2017, [REDACTED] for 2018, [REDACTED] for 2019, and [REDACTED] for 2020. *Id.* at 189-190 (citing Tr. (Putnam) at 494:18-495:24, 499:11-19). Complainants represent that [REDACTED] of Roku’s total revenue is allocable (via an average of [REDACTED] for each respective year 2017-2020) to the Roku DI Products. CIB at 186. When these percentages are applied to the property and equipment expenses, Complainants contend the cognizable amounts for subsection (A) domestic industry are: [REDACTED] for 2017, [REDACTED] for 2018, [REDACTED] for 2019, and [REDACTED] for 2020. *See id.* at 190; *but see id.* at 190 (failing to sum 2017-2020 and alleging

[REDACTED]

total investment is only [REDACTED]); Tr. (Putnam) at 499:11-19. As discussed below in connection with subsection (B), Complainants contend this revenue-based allocation is proper. *See generally* CRB at 106-114.

Respondents, on the other hand, find “multiple fatal flaws” with Complainants’ subsection (A) theory. RIB at 176. Respondents first contend that under Commission precedent use of a revenue-based allocation is only proper when there exists evidence showing revenue is proportional to expenditures. *Id.* at 176 n.48 (citing *Certain Mobile Device Holders*, Inv. No. 337-TA-1028, Comm’n Op. at 18-19 (Mar. 22, 2018)); RRB at 114. Respondents argue there is no such evidence in the record, leaving the allocation unavailable for Complainants’ intended use. *See* RIB at 176-177. Indeed, Respondents argue a comparison between an actual headcount ([REDACTED] engineers) and what a [REDACTED] revenue-based allocation would provide ([REDACTED] engineers) demonstrates the allocation is wholly unrealistic. *Id.* at 176 (citing Tr. (Leonard) at 1347:22-1348:13).

Respondents also complain of the failure to separate out “non-qualifying DI expenditures, like sales, administrative functions, and international facilities, thereby inflating the results.” RIB at 177. Respondents argue the 10-K report used by Complainants to provide the facility investment of \$155.2 million, shows that the amount applies to all of Roku’s properties including those used for non-qualifying “sales,” “administrative purposes,” and even international properties. *Id.* (citing, *inter alia*, CX-0857 at *52, 92; *Certain Bone Cements, Components Thereof and Products Containing the Same*, Inv. No. 337-TA-1153, Comm’n Op. at 22 (Jan. 25, 2021)).

Staff agrees with Respondents, in that no domestic industry under subsection (A) has been shown. Staff apparently credits and finds dispositive Respondents’ expert, Dr. Leonard, who testified that “Dr. Putnam’s revenue-based allocation is unreliable because it assumes that Roku’s

[REDACTED]

investments are proportional to Roku’s revenue.” SIB at 96 (citing Tr. (Leonard) at 1345:1-1348:13); SRB at 71.

Complainants have not shown their [REDACTED] plant and equipment expenditure for 2020 is reliable for purposes of domestic industry.⁹ Respondents raise the persuasive point that this amount likely includes plant and equipment assets for non-domestic industry qualifying activities—such as sales and marketing, general warehousing, administration, etc., in addition to those in foreign locales. *Bone Cements*, Inv. No. 337-TA-1153, Comm’n Op. at 22 (citations omitted). Complainants have seemingly started their calculation using company-wide plant and equipment investment for the year 2020 using Roku’s 10-K statement, an amount of \$155.2 million. *See* CIB at 189-190 (citing, *inter alia*, CX-0857.0075). But there is no suggestion this amount is limited to U.S. locations, let alone those [REDACTED] engineers conduct the relevant, qualifying, domestic activities. *Compare* CX-0857.0051 (“Item 2. Properties. Our corporate headquarters are currently located in San Jose, California . . . We use this space for sales, research and development and administrative purposes. In addition, we lease various office and shared work spaces throughout the United States and internationally.”) *with* CX-0449C ([REDACTED]). Indeed, accepting Complainants’ theory would produce the implausible result that Roku invested [REDACTED] [REDACTED] in plant and equipment (i.e., not labor or capital) in a single year (2020) for *just* [REDACTED] individuals to research and develop *just* the hardware of the Roku DI Products. This unlikeliness is compounded by Roku’s 2020 10-K statement describing only \$11.7 million in “facilities costs” for its *company-wide* Research and Development program (CX-0857.0064) and by Roku’s

⁹ Respondents note that “[i]n his expert report, Dr. Putnam estimated Roku’s plant and equipment expenditures for 2017-2020; however, at trial, Dr. Putnam’s testimony was limited to 2020 only.” RIB at 177 n.49 (citing Tr. (Putnam) at 494:18-495:23, 499:11-19; CDX-0011C.0035-.0036).

[REDACTED]

prepared summary of expenses for the [REDACTED] engineers listing only [REDACTED] [REDACTED] (CX-0451C at Tab “Summary”; RX-1206C (Perry Tr.) at 31:13-32:1).

Complainants’ revenue-based allocation, reliable or not, does not cure this defect. The allocation is a means to remove activities tied to non-Roku DI Products, but it does nothing to remove non-qualifying activities also tied to those products. It also, as a general matter, should not be applied to locations which are known to not house any qualifying activities at all (*e.g.*, [REDACTED] [REDACTED]). Yet Complainants do exactly this through their reliance on company-wide investment figures drawn from a 10-K statement. Even if the \$155.2 million amount could be assumed to apply only to the [REDACTED] locations, Roku’s prepared spreadsheet, CX-0449C, shows that only [REDACTED] [REDACTED]. This [REDACTED] allocation makes no appearance in Complainants’ calculations, however; and, in all fairness, it is difficult to see how it could have been because the \$155.2 million comes with no location (or any other) information.

Complainants’ remaining arguments are not persuasive. Complainants’ remarks on including amenities in locations “designated as 100% engineering” would ordinarily be helpful (CRB at 111-112), as engineering is considered a qualifying activity and thus a “100% engineering” building has no non-qualifying activities. Yet the spreadsheet, CX-0449C, which marks [REDACTED] conflicts with Roku’s 10-K statement which clearly states “[o]ur corporate headquarters are currently located in San Jose, California under a lease that expires in September 2030. We use this space for *sales*, research and development and *administrative* purposes.” CX-0857.0051 (emphasis added). Complainants also claim Roku’s witness supports [REDACTED] (CRB at 108 (citing JX-0056C at 26:23-27:20)), but the testimony merely states the spreadsheet [REDACTED]

[REDACTED]

[REDACTED] (JX-0056C at 27:2-5) and later testimony revealed [REDACTED]

[REDACTED] (*id.* at 47:3-12). Indeed, the witness, [REDACTED] at Roku (JX-0056C at 10:22-25) and [REDACTED] (*id.* at 9:21-24).

The above deficiencies also have nothing to do with whether a square footage-based allocation was used. *See* CRB at 111. To the contrary, the stated [REDACTED] ratio and likely inaccurate [REDACTED] ratio in the spreadsheet mentioned above (CX-0449C) show that a square footage allocation probably should have been used to exclude space for non-qualifying activities or with no nexus to the Roku DI Products.

Thus, there is serious cause to doubt the [REDACTED] designations in CX-0449C, especially for [REDACTED]. Even then, Complainants' theory does not claim *all* types of engineering behind the Roku DI Products as contributing to the domestic industry; only [REDACTED] hardware engineers. CIB at 184-185; Tr. (Putnam) at 484:19-485:7, 487:18-488:7. But the record strongly suggests [REDACTED]

[REDACTED] *See* RIB at 180-181, 181 n.52 (stating there is no dispute Roku has [REDACTED] R&D employees), 181 n.53 (stating Roku has [REDACTED] employees); CIB at 184-185 (identifying [REDACTED]); *see also* JX-0056C at 48:6-18. So, even though research and development on the software of domestic industry products would ordinarily be qualifying, Complainants have elected not to use it. Such research and development is effectively non-qualifying, and any plant and supporting equipment in Roku's [REDACTED] locations for software development must be excluded (i.e., no different from sales/marketing personnel, or a non-DI

[REDACTED]

product line, etc.). Complainants’ wholesale use of \$155.2 million taken from a 10-K does not do this, however.

Accordingly, the starting point of Complainants’ plant and equipment calculation, \$155.2 million, is considerably over-inclusive, not cured by a revenue-based allocation, and cannot be accepted for domestic industry purposes. There is simply not enough evidence in the record to determine what a sufficiently reasonable figure would be. Thus, no case for subsection (A) domestic industry investment has been made. *Certain Television Sets, Television Receivers, Television Tuners, and Components Thereof*, Inv. No. 337-TA-910, Comm’n Op. at 66 (Oct. 30, 2015) (affirming that unreliable figures from a complainant is a “fail[ure] to satisfy its burden to demonstrate the existence of a domestic industry).

2. Subsection (B) - Labor or Capital

a. Roku

During the 2017-2020 timeframe, Complainants argue Roku made significant investments in labor or capital under subsection (B). CIB at 184-189. As to labor, Complainants identify [REDACTED] hardware engineers “dedicated to research and development of the protected 4K-capable streaming players,” where [REDACTED] of those are located in the United States. *See id.* at 184-186. Complainants contend this number [REDACTED]

[REDACTED] *Id.* at 185. As for spending on these employees, Complainants argue “that between 2017 and 2020 Roku spent [REDACTED]

[REDACTED] *Id.* (citing Tr. (Putnam) at 486:5-490:1; CX-0450C; CX-0451C).

Complainants also present capital investments made by Roku, between 2017-2020, of [REDACTED] CIB at 188. According to Complainants, Dr. Putnam “utilized a widely-accepted revenue-percentage

[REDACTED]

based allocation” to arrive at the [REDACTED] figure. *Id.* at 187 (citing, *inter alia*, *Mobile Device Holders*, Comm’n Op. at 18-19), 188 (citing Tr. (Putnam) at 491:14-493:23); CRB at 106.

Complainants suggest this is “actually very conservative” based on expert testimony that [REDACTED]

[REDACTED] (CIB at 188 (citing Tr. (Putnam) at 493:11-23, 505:25-506:12)), and that there is no merit to Respondents’ criticisms given the information came from a reliable financial representative of Roku (*see* CRB at 107-108 (citing JX-0056C at 10:20-14:3, 21:10-27:20, 28:15-32:22; CX-0450C)). In addition, Complainants fault Respondents for misrepresenting Dr. Putnam as applying the sales-based revenue to the number of DI employees, which was not done, as opposed to capital investment, which was (*see id.* at 111 (citing, *inter alia*, Tr. (Leonard) at 1347:22-1348:13, 1370:1-25; RIB at 176-77)), and argue no non-qualifying activities were included “because facilities such as a cafeteria or a gym are employment perquisites [sic] and help with talent retention” (*id.* at 111-112; *id.* at 112 (“activities such as legal and financial, can properly be considered integral to the DI Products”)). Complainants make a similar point regarding overseas capital expenditures:

As Dr. Leonard admitted on cross-examination, however, Roku conducts [REDACTED] [REDACTED] *Id.* at 1366:25-1369:23. As a result, his hypothetical had no factual basis in the evidence in this Investigation. The evidence shows, and Dr. Leonard admitted, that [REDACTED]

[REDACTED] As a result, the manufacturing of the Roku DI Products would not (and could not) be relevant to the domestic industry assessment here. *See id.* at 1369:18-23. Thus, unlike Dr. Leonard’s fabrication, there is zero danger of inadvertently allocating Roku’s foreign manufacturing capital expenditures to the domestic industry. This is because [REDACTED]

Id. at 113. In total, therefore, Complainants present [REDACTED] (labor + capital) as Roku’s investment under subsection (B). *Id.* at 189.

Respondents take the position that Complainant’s totals for labor and capital are so unreliable that they cannot be accepted for domestic industry purposes. As to labor, specifically,

[REDACTED]

Respondents allege it has been assumed, but not shown, that the [REDACTED] engineers “work entirely on the DI products.” RIB at 179-180; *see* RRB at 109 (citing CIB at 185). Respondents argue Roku’s financial witness testified “[REDACTED]” and [REDACTED]

[REDACTED]

Id. at 110 (citing JX-0056C at 34:8-16, 49:18-50:24, 53:11-20, 54:4-17).

Respondents add that the 2017-2019 labor expenditures in particular actually have no evidentiary support; rather, they are estimates derived from 2020’s average labor cost and DI-to-total R&D employee counts, and then applied to total Roku R&D employees reported in 2017, 2018, and 2019 10-Ks. *Id.* at 111. Thus, Respondents view those 2017-2019 numbers as “pure conjecture” which “must be discarded” such that only 2020’s figures can be accepted. *Id.* As to 2020, Respondents argue the evidence indicates Roku “[REDACTED]

[REDACTED]

[REDACTED] *Id.* at 111-112 (citing CX-0451C); *id.* at 112 n.43 (citing, *inter alia*, *Certain Dimmable Compact Fluorescent Lamps and Products Containing Same*, Inv. No. 337-TA-830, Initial Determination at 66 (Feb. 27, 2013); *Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm’n Op. at 42-43 (Aug. 1, 2007)).

As to capital, Respondents repeat their objections to Dr. Putnam’s revenue-based allocation discussed above. RIB at 178. Respondents further argue that certain expenditures related to plant and equipment—the province of subsection (A)—have been improperly included again as capital under subsection (B). *Id.* at 178-179. Respondents also fault Complainants for using the revenue-based allocation in the first place when actual financial figures, such as “facilities overhead,” are

[REDACTED]

available, and assert that they result in significantly different investment amounts. *See id.* at 179; *see generally* RRB at 114-115.

Staff agrees with Complainants' calculations of Roku's labor investment, but argues the revenue-based allocation for Roku's capital investment is flawed. *See* SIB at 92, 96. Staff states, "[Respondents' expert, Dr. Leonard] provided credible testimony explaining, *inter alia*, that Dr. Putnam's revenue-based allocation is unreliable because it assumes that Roku's investments are proportional to Roku's revenue." *Id.* at 96 (citing Tr. (Leonard) at 1345:1-1348:13); SRB at 71.

The reliability of Complainants' calculated labor amount for Roku is a close call. In sum, only a portion of 2020's labor amount of [REDACTED] will be considered for "significance" below.

To begin, as Respondents point out, Roku did not produce labor data for 2017-2019 as had been done for 2020. *See* RRB at 111 n.42 ([REDACTED]); Tr. (Putnam) at 486:20-25. The only data Complainants appear to have for these years is total R&D headcount as disclosed in company-wide 10-K statements. *See* CX-0196C.0007 (notes [f]-[i]); CX-0855.0012 (2019 10-K); CX-0856.0011 (2018 10-K); CX-0062.0011 (2017 10-K); Tr. (Putnam) at 486:15-487:3; *see generally* CIB at 185-186 (not citing anything for 2017, and nothing but 10-Ks for 2018-2019). Thus, there is no actual spending data whatsoever for these years. To compensate, as described above, Complainants have assumed the ratio of DI engineers to total R&D engineers would have been the same in 2017-2019 as it was in 2020, in addition to the same per-employee spending (salary, benefits, etc.). *See* Tr. (Putnam) at 486:15-487:3.

The problem is that employee count and per-employee investment are really the gist of a subsection (B) labor calculation (*e.g.*, total investment = # persons * per-person spend). To have to copy both metrics from one year (2020) and assume the same for prior years (2017-2019) does

[REDACTED]

not meet the evidentiary standards expected for economic prong cases. *See Certain Soft-Edged Trampolines and Components Thereof*, Inv. No. 337-TA-908, Comm’n Op. at 56-57 (May 1, 2015) (affirming ALJ’s determination on lack of credible evidence to support allocations of investment); *see generally Certain Electronic Candle Products and Components Thereof*, Inv. No. 337-TA-1195, Comm’n Op. at 8 (Sept. 13, 2021) (“Commission Precedent requires that the evidence show qualifying investments in these categories with respect to the protected article.”), 10 (“It cannot be assumed that by simply categorizing activities as “engineering, research, development, and design” that the asserted activities may properly be considered as the type of activities covered by subsection 337(a)(3)(C).”). These are basic corporate metrics, and Roku’s provision of 2020 data implies they are kept in the ordinary course. Complainants offer no explanation for why this near-wholesale copying is needed.

Instead, they argue conclusorily that “Philips proved at the hearing that between 2017 and 2020 Roku spent [REDACTED] on U.S.-based Hardware engineering employees.” CIB at 185. But at most, Complainants have offered a guess at what 2017-2019’s spending might have been for hardware engineers working on the Roku DI Products. To treat this as “proof” would open the door for any complainant with just one year of data to claim four years of investment. Accordingly, Complainants’ proposed labor investment from licensee Roku for the years 2017-2019 will not be considered.

As for the 2020 labor calculation of [REDACTED], this spending was directly confirmed by Roku’s corporate witness, Mr. Perry, and does not rely on any allocations at all. RX-1206C (Perry Tr.) at 33:4-34:16; Tr. (Putnam) at 488:18-489:1. But, as Respondents argue, it has essentially been assumed “that these [REDACTED] engineers work entirely on the Roku DI products,” such that their entire compensation can be credited, as opposed to allocating some of

[REDACTED]

percentage mentioned above, it will be used against Complainants' proven [REDACTED] to isolate the Roku DI Products activities.

Moving to capital, Complainants' proposed expenditures are not sufficiently supported or reliable to be used at all. To start, Complainants' presentation of the theory is completely inadequate. The briefing does not identify the amount of alleged investment for each of years 2017-2020 (*see* CIB at 188) and instead leaves that basic information to their expert's report (*id.* (citing CX-0196C.0007)). That report, however, offers no meaningful citation for the [REDACTED] amounts, referring only to "[j] Roku 10-Ks, 2017-2020." CX-0196C at *7. Complainants' briefing then identifies certain page numbers within these 100+ page 10-K statements (CIB at 188 (citing CX-0855.0078 (2019); CX-0856.0074 (2017, 2018); CX-0857.0076 (2020))), but these pages do not contain the [REDACTED] amounts. Rather, it falls to Respondents to explain that the figures come from the "Purchase of property and equipment" line item, reported on entirely different pages. *See* RIB at 178-179 (citing CX-0857.0079); *see also* CX-0855.0081; CX-0856.0077.

This blanket use of "Purchase of property and equipment" appearing in 10-K cash flow statements, without any further explanation (*see generally* CIB at 184-189; CRB at 105-117), makes it difficult for Complainants to establish that these amounts qualify for subsection (B) consideration. There is no explanatory Roku corporate testimony on this topic either. *See* RX-1206C ([REDACTED]) at 24:23-26:13 (discussion limited to revenue in 2020 10-K statement). For this reason alone Complainants have not met their burden. *See Trampolines*, Comm'n Op. at 56-57. Regardless, the use of these company-wide 10-K "property and equipment" items suffers from the same drawbacks as the "property and equipment" amounts presented for subsection (A). There is little reason to believe the investments are limited to qualifying activities; i.e., not also supportive

[REDACTED]

of non-qualifying activities such as sales, marketing, administration, international locations, etc. Complainants' revenue-based allocation does nothing to cure this defect, for the same reasons discussed above.

Accordingly, Complainants have not presented reliable capital investment under subsection (B) for the Roku DI Products. With [REDACTED] in labor having been determined as sufficiently reliable, this returns [REDACTED] in subsection (B) investment on behalf of Roku for consideration of significance.

b. Samsung

In addition to Roku, Complainants assert a domestic industry under subsection (B) based on the labor expenditures of licensee Samsung. Complainants point to "extensive repair and service warranty activities" of the Samsung DI Products within the United States, whereby

[REDACTED]

[REDACTED] CIB at 191 (citing Tr. (Putnam) at 499:21-501:17; CX-0850C; CX-0851C; CX-0852C). Between November 2019 and September 2020, Complainants contend Samsung expended [REDACTED] on in repair and warranty labor costs "directed specifically to the Samsung DI Products" (*id.* at 193 (citing Tr. (Putnam) at 500:4-8); CRB at 117 (citing Tr. (Putnam) at 500:2-501:3)).

Respondents do not dispute the accuracy of the [REDACTED] figure, as opposed to whether its "significance" under the statute has been shown. *See* RIB at 181-183; RRB at 115-116. Staff does not offer any analysis at all. *See generally* SIB at 87-96; SRB at 62-71. And the evidence shows that Samsung spent at least [REDACTED] on qualifying activities. *See* Tr. (Putnam) at 500:2-501:3.

[REDACTED]

Thus, the [REDACTED] investment directed to labor for service, repair, and warranty activities of the Samsung DI Products effectively stands undisputed, and it is accepted for purposes of evaluating significance below.

3. **Subsection (C) - Exploitation [of the patent], including engineering, research and development, or licensing**

Beyond Roku and Samsung, Complainants contend they have independently satisfied the domestic industry requirement under subsection (C) through a “concerted and organized effort to license its patent portfolios in which the Asserted Patents reside.” CIB at 169. Complainants explain the activities are related to two particular portfolios: “(1) Philips’ Portable Features portfolio (a/k/a the Touch-Enabled Device portfolio) (the “TED” portfolio) and (2) Philips’ Television/Set-Top Box (“TV/STB”) portfolio” (the “STB” portfolio). *Id.* (citing CX-0921-CX-0925). Complainants describe the personnel conducting the activities as:

[A] dedicated team of licensing professionals, among other things, evaluate licensing opportunities for the Asserted Patents, analyze Philips’ patent portfolio, analyze devices of potential licensees to identify infringement, draft and send notice letters to potential licensees, communicate extensively with such parties, meet with them during license negotiations, coordinate outside counsel working on litigation during enforcement of the Asserted Patents, and so on.

Id. at 169-170 (citing Tr. (Wieghaus) at 71:22-73:10, 76:25-78:24, 84:1-12). For support, Complainants provide various notice letters sent to potential licensees, slide decks, negotiation documents, claim charts, testimony on email and teleconference communication, and travel records. *See id.* at 170 (citing Tr. (Wieghaus) at 74:25-78:24; CX-1050; CX-1049; CX-0928C-CX-1132C; CX-0205C.0003-.0015; CX-1200C.0100-.0149; CX-1201C; CDX-0001.0017). Complainants assert that a strong nexus necessarily exists between these efforts and licensing because there was no other purpose to them. *Id.* at 170-171 (citing *Certain Multimedia Display and Navigation Devices*, Inv. No. 337-TA-694, Comm’n Op. at 10, 21 (July 22, 2011) (“*Navigation Devices*”)). Complainants additionally refer to witness testimony from Philips

[REDACTED]

employees and allegedly corroborating documentation to show that finding the “Kamperman Patents were principal drivers of Philips’ numerous portfolio-wide licenses” is “the single most likely and well-supported inference.” *Id.* at 171-172. As for Respondents’ expert testimony on the issue, Complainants criticize the expert’s lack of first-hand knowledge for any negotiations and that he otherwise “had never been directly involved in negotiating a patent license agreement in his 30+ years as a hired-gun expert in the IP field.” CIB at 172 (citing Tr. (Leonard) at 1354:18-1361:24, 1357:10-1359:15); CRB at 97, 101.

Accordingly, Complainants argue [REDACTED] in salary and benefits for a U.S.-based team of licensing professionals have a nexus to the Asserted Patents and should be considered towards the subsection (C) domestic industry. CIB at 172-173. Complainants arrive at this figure through the multiplication of total salary and benefits and time spent on the relevant “licensing programs” for each of [REDACTED]

[REDACTED] *Id.* at 173; *see id.* at 174; *but see* Tr. (Putnam) at 479:15-21 ([REDACTED]). Complainants acknowledge that [REDACTED]

[REDACTED] *Id.* at 174 (citing Tr. (Wieghaus) at 68:2-71:15; CX-1675C; CX-1203C). Complainants also acknowledge that [REDACTED]

[REDACTED] *Id.* at 173 n.19 (citing CX-1203C; CX-0001C.0011).

Beyond these professionals, Complainants point to extensive investment in “litigations filed in 2015 against companies that initially refused to pay for the right to use its patented

[REDACTED]

technology, including against multinational consumer electronics companies such as [REDACTED], all of whom implement the accused HDCP 2.x technology.” CIB at 174-175. Complainants explain, “[i]n those litigations, Philips asserted patents in the Kamperman family, along with several other patents. . . . But, as the evidence showed, by the end of those proceedings the asserted Kamperman Patents were the only unexpired patents remaining in dispute.” *Id.* at 175. The outside attorneys fees, supported by Complainants’ U.S.-based licensing personnel, for these litigations [REDACTED] *Id.* at 175-176.

Complainants then contend “[e]xpert opinion and evidence showed that this huge litigation investment can and should be credited in full to the Asserted Patents;” i.e., the fees have sufficient nexus to the Asserted Patents. CIB at 176 (citing Tr. (Putnam) at 472:6-475:18). Complainants explain that they asserted patents within the Kamperman family, but not the Asserted Patents themselves, in each litigation, and that “by the end of those proceedings the asserted Kamperman Patents were the only unexpired patents remaining in dispute.” *Id.* at 175; CRB at 101. Complainants argue this initial selection of Kamperman Patents for litigation, and their survival up to the ultimate resolution of each case, “underscores their importance” to the case and thus the fees paid therefor. *See* CIB at 175 (citing *Certain 3G Mobile Handsets and Components Thereof*, Inv. No. 337-TA-613, Order No. 42 at 16 (March 20, 2009)); CRB at 101-102. Complainants note, [REDACTED]

[REDACTED] CIB at 175; *id.* at 177 (citing *Navigation Devices*, Inv. No. 337-TA-694, Comm’n Op. at 10). The importance of the Kamperman Patents to the litigations is further shown, according to Complainants, by the decision of now-licensee,

[REDACTED]

then-defendant, [REDACTED] to “challenge[] the claims of certain Kamperman Patents at the PTAB.” *Id.* (citing, *inter alia*, Tr. (Wieghaus) at 80:24-81:22; CX-0001; CX-0499).

With that said, and in view of the fact that the prior litigations did not involve the Asserted Patents but rather patents within the same family, Complainants state, “the relevant precedent is clear that Philips may properly take the benefit of investments made in connection with licensing activities directed to other Kamperman Patents in addition to those specifically incurred in connection with the Asserted Patents.” CIB at 179 (citing *Certain Wireless Devices with 3G Capabilities and Components Thereof*, Inv. No. 337-TA-800, Initial Determination (June 28, 2013) (“3G Wireless Devices”); *Certain Wireless Devices with 3G and/or 4G Capabilities and Components Thereof*, Inv. No. 337-TA-868, Initial Determination at 143-144 (June 26, 2014) (“3G/4G Wireless Devices”)). Complainants add that their expert, Dr. Putnam, “convincingly described” how an economic approach would treat patents within a single family as a single asset, in part because “members of a patent family are really just different collections of claims that are drafted at different points in time based on the same underlying specification.” *Id.* at 180 (citing Tr. (Putnam) at 462:3-463:23); CRB at 100-101. Complainants argue this logical approach enjoyed “no good rebuttal” from Respondents’ expert (*see* CIB at 180) and that he “admitt[ed] that only once in a decades-long career did he support a patent licensing effort directed to something other than a full portfolio” (CRB at 95-96 (citing Tr. (Leonard) at 1357:10-1358:23)).

In their reply briefing, Complainants emphasize that even under Respondents’ interpretation, “Philips has invested an absolute minimum of [REDACTED] specifically and directly in licensing the Asserted Patents.” *See* CRB at 92-93. Complainants also reject any alleged similarity between the present record and the patent holder in *John Mezzalingua Assocs., Inc. v. Int’l Trade Comm’n*, 660 F.3d 1322 (Fed. Cir. 2011), in part because the entity in that case had no

[REDACTED]

licensing program prior to initiating litigation and maintained awarded injunctions for appreciable amounts of time—indicating the intent of the litigation was not to license, but to exclude. *See id.* at 94-95 (citations omitted). In total then, Complainants argue they proved, under a more likely than not standard, that a licensing-based domestic industry investment of [REDACTED] directed to the Asserted Patents exists. *See* CIB at 183; CRB at 92.

In opposition to this [REDACTED] figure, Respondents primarily argue a lack of nexus. They contend, “[p]ut simply, Philips asserts—with no evidence other than the say-so of its licensing executives as to the thinking of its licensees—that the Kamperman patents ‘drove’ [REDACTED] [REDACTED] in licensing deals, which required [REDACTED] of investment to secure.” RIB at 183. As to the litigation expenses, Respondents highlight the litigations involved eleven patents, only two of which were Kamperman patents, and neither of those were the patents presently asserted in this investigation. *Id.* at 184 (citing Tr. (Wieghaus) at 97:1-10). Moreover, Respondents contrast Complainants’ approach [REDACTED] [REDACTED] *Id.* (citing JX-0017C (Wieghaus) at 96:13-17).

Respondents particularly focus on *Mezzalingua*, 660 F.3d 1322, as an example of a lack of nexus when “litigation expenditures were [not] directed to licensing efforts for the particular asserted patent, as opposed to the patent family.” RIB at 184. Respondents claim Complainants’ alleged nexus is even more attenuated, however, because:

(1) Philips is attempting to allocate not just investments in the Kamperman family, but investments in the *entire patent portfolio* to the two Asserted Patents; and (2) the *Mezzalingua* I.D. contained an analysis of attorney invoices to identify which expenses related to litigation activities and which related to licensing. *Mezzalingua*, 660 F.3d at 1330. Neither Dr. Putnam nor Philips provided such an allocation or any allocation of which expenses relate to the two Kamperman patents versus the nine other patents in Philips’ litigation campaigns. Tr. (Putnam) at 472:17-473:7 (claiming further allocation could not be done).

[REDACTED]

Id. at 185 (emphasis in original). Indeed, after a line-item review of the litigation invoices, Respondents contend “[a]t most, [REDACTED] of the litigation expenses could potentially be attributed to the Kamperman patents, per Mr. Wieghaus’ assessment” which reduces the figure to [REDACTED]. *See id.* at 186 (citing Tr. (Leonard) at 1328:20-1329:17; RX-0308.0012; JX-0017C (Wieghaus) at 75:18-76:11).

Turning to the non-litigation expenses of in-house personnel, Respondents argue they “are premised on two fundamental mistakes.” RIB at 186. First, according to Respondents, “Mr. Wieghaus admitted in deposition that [REDACTED]

[REDACTED] *Id.* Second, Respondents argue the remaining expenses for [REDACTED]

[REDACTED] *Id.* at 187-188 (citing *Navigation Devices*, Inv. No. 337-TA-694, Comm’n Op. at 7-15); RRB at 122 & n.51 (citing *Certain Coaxial Cable Connectors and Components Thereof and Products Containing Same*, Inv. No. 337-TA-650, Comm’n Op. at 50-51 (Apr. 14, 2010)). Respondents also view Mr. Wieghaus’ testimony on [REDACTED] [REDACTED] (RIB at 189) and the broad technological scope within each portfolio (*id.*), as further demonstrating that portfolio-wide activities cannot be wholly assigned to these patents.

Within that allegedly broad scope of the ~450 patent-TED and ~600 patent-STB portfolios, Respondents argue “[t]he weight of the evidence indicates that the ’186 and ’564 Patents did not drive Philips’ portfolio-based licensing program and were not particularly valuable vis-à-vis other patents in the portfolios.” *See* RIB at 188-189. Specifically, Respondents allege “[t]he ’186 and ’564 patents . . . [REDACTED]; have no prior litigation history or

[REDACTED]

findings of infringement in the U.S.; do not relate to a technology standard; and are not base or pioneering patents.” *Id.* at 190. Quantitatively, Respondents observe that the 186 patent is highlighted in just [REDACTED] negotiation documents, and the 564 patent in [REDACTED] (RRB at 117 (citing Tr. (Putnam) at 528:2-530:25; CX-0205C)), and that Complainants’ expert did not find evidence of any other patent or patent family having more importance than Kamperman because the expert did not look for any other properties (*id.* at 121).

Similarly, Respondents note that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]” RIB at 190. These [REDACTED] agreements, according to Respondents, “have no nexus to the Asserted Patents at all (*id.* at 191) and the remaining [REDACTED]

[REDACTED]

id. at 191; *see generally id.* at 191-193. Respondents observe that only the 564 patent is highlighted in [REDACTED] RRB at 117. Taking into account Respondents’ proposed corrections “results in [REDACTED] attributable to the Kamperman patents from 2017-2020 [REDACTED]” RIB at 187.

In their reply brief, and beyond the arguments summarized above, Respondents challenge Complainants’ basic use of the Kamperman Patent family as a proxy for the Asserted Patents. RRB at 116 (citing CIB at 179-181). Respondents summarize:

In short, Philips is using the Kamperman family as a proxy for two patents—that are barely mentioned in any negotiations or licenses—and then attributes the full value in the TED/STB portfolios to the Kamperman family. But there is no factual or legal predicate for their assumptions that these portfolio investments are per se attributable to the Kamperman family, much less to the two Asserted Patents. As

[REDACTED]

such, Philips cannot demonstrate a nexus between the Asserted Patents and its licensing activities.

Id. at 116-117. Respondents repeat their argument that the claim scope amongst the members of the family vary so much that they would not all be “relevant to any particular [licensing] target.” *See id.* at 118-119 (citing, *inter alia*, Tr. (Mitzenmacher) at 811:24-812:20).

Staff largely agrees with Respondents, finding “the evidence does not appear to the Staff to be sufficient to show the requisite nexus between Philips’ licensing investments and expenditures and the Asserted Patents.” SIB at 87. Staff argues Respondents’ expert, Dr. Leonard, offered more persuasive testimony regarding the size and composition of Philips’ portfolios affecting inferences of nexus to the Asserted Patents. *See id.* at 91; SRB at 66.

Respondents and Staff have the more persuasive position here. To begin, there can be no dispute that for these investments to be credited for economic prong purposes, there must be a “nexus” to the 186 and 564 patents. *Certain Integrated Circuit Chips and Products Containing the Same*, Inv. No. 337-TA-859, Comm’n Op. at 38 (Aug. 22, 2014) (“[T]o the extent that there was any question, under subparagraph (C), the complainant must establish that there is a nexus between the claimed investment and the asserted patent, regardless of whether the domestic-industry showing is based on licensing, engineering, or research and development.”); *Navigation Devices*, Comm’n Op. at 9.

Complainants do not adequately show there is such a nexus, however. Instead, they seek to show a nexus between the investments and other, non-asserted, members of the Kamperman patent family—under an envisioned rule that an investment in one member is an investment in all. Complainants state, “Respondents and their expert may assert that Philips’ licensing-related expenses must be specifically down-allocated to the specific patent level, but the suggestion is contrary to settled Commission precedent.” CIB at 181.

[REDACTED]

Complainants are incorrect, however. The Commission routinely requires a connection or relationship between investment and the patents asserted in that particular investigation, rather than surrogates of the patents. *See, e.g., Navigation Devices*, Comm’n Op. at 18-21 (showing continued focus on nexus to the asserted patents, and finding attenuated nexus to in-house licensing), 22 (finding strong nexus between asserted patents and outside counsel litigation efforts); *Certain Integrated Circuits, Chipsets, and Products Containing Same Including Televisions*, Inv. No. 337-TA-786, Comm’n Op. at 28 (Oct. 10, 2012) (“Additionally, we find that Freescale failed to demonstrate how those costs relate to the asserted patent. Furthermore, we find that the ALJ should not have considered Freescale’s remaining non-payroll expenses because of a similar lack of proof concerning how those expenses relate to the asserted patent.”); *Integrated Circuit Chips*, Comm’n Op. at 38-40.

In fact, the Commission’s opinion in *Coaxial Cable Connectors* specifically considered investment in the licensing of family members as opposed to the asserted patent and stated:

On remand, PPC must show that each asserted litigation activity is related to licensing. In addition, PPC must show that these activities are related to the ’539 design patent. For example, although the [] litigation was clearly connected to the ’539 design patent, the license makes no mention of the patent. . . . Litigation activities may need to be broken down into their constituent parts. The ALJ may presume that license drafting and execution are associated with licensing, but PPC must still prove that the license is related to the patent at issue and what the related costs were.

Comm’n Op. at 54-55; *see Coaxial Cable Connectors*, Inv. No. 337-TA-650, Remand Initial Determination at 24-25 (reducing “weight” given to family-wide licensing expenses because asserted design patent “had less licensing value” than utility patent family members).

The only favorable decisions cited by Complainant are the initial determinations in *3G Wireless Devices* and *3G/4G Wireless Devices*. *See CIB* at 179. But in addition to the fact that those determinations are “not established precedent at the Commission” (*id.*), they are also

[REDACTED]

distinguishable on their facts. The business-reality consideration that justified the whole-family approach for subsection (C) licensing in *3G Wireless Devices* has not been demonstrated here. *See 3G Wireless Devices*, Initial Determination at 397-400 (emphasizing the nature of Complainant’s business). And the determination in *3G/4G Wireless Devices* simply relied on *3G Wireless Devices* as being correctly decided for the same party. *See 3G/4G Wireless Devices*, Initial Determination at 145-146. In actual Commission opinions, by contrast, the longstanding practice is to allocate investments based on a nexus to either the claimed subject matter or the protected article. *See Electronic Candles*, Comm’n Op. at 8 (“When a complainant has investments or employment that are not solely directed to the domestic industry articles, the Commission requires that the complainant allocate the portion of those investments that are attributable to those domestic industry products.”); *Certain Integrated Circuit Chips and Products Containing the Same*, Comm’n Op. at 40 (“The difficulty arises when the complainant points to investment in an article without offering nexus between that investment and the patented technology.”); *Certain Gas Spring Nailer Products and Components Thereof*, Inv. No. 337-TA-1082, Comm’n Op. at 80 (Apr. 28, 2020). In view of these legal principles, it has not been established by a preponderance of the evidence that any investment in licensing any Kamperman patent can be sufficiently attributed to the 186 and 564 patents.

Even if that were the rule, the asserted patents did not exist for much of the time in which these expenses accrued—they are recent additions to the family. The 564 patent, for example, issued on May 21, 2019. JX-0003 (564 patent) at cover. Thus, even if an investment in a Kamperman family patent counted for any of its members, the 564 patent was not a member until that date. That fairly and logically excludes all prior in-house and litigation investments—amounts presently included in Complainants’ theory. Similarly, the 186 patent issued on October 2, 2018.

[REDACTED]

JX-0002 (186 patent) at cover. Again, in-house activity and litigation prior to this date should be excluded. *See, e.g., Navigation Devices*, Inv. No. 337-TA-694, Comm’n Op. at 13 (“Each investigation requires a fact-focused and case-specific inquiry to determine whether this statutory requirement has been satisfied by the complainant.”), 18-21 (considering facts of asserted patents and complainant’s portfolio), 22 (same); *Certain Wireless Consumer Electronics Devices and Components Thereof*, Inv. No. 337-TA-853, Comm’n Op. at 68 (Mar. 21, 2014) (stating, “[t]he Commission’s primary consideration is whether [] there is sufficient evidence in the record . . . [so that] Complainants’ licensed-based domestic industry does not include irrelevant expenditures.”). And even if application filing dates are used, some amount of the claimed investment should still be excluded. JX-0003 (564 patent) at cover (filing date of Aug. 30, 2018); JX-0002 (186 patent) at cover (filing date of Nov. 16, 2016).

This is not to say that no fact-specific inquiry would have yielded a reliable licensing investment figure for the 186 and 564 patents. For example, Dr. Putnam could have pro-rated the in-house and outside counsel expenses down to these two patents. CX-0205C (RX-0304C) for example, contains an alleged listing by Dr. Putnam of all negotiation documents produced by Philips. *See* CX-0205C.0009-.0015; Tr. (Putnam) at 477:17-478:9. In his review, he marked the date, the opposing party, whether the 186 and 564 patents were “highlighted,” and whether there were “other references to Kamperman patent family,” in each document. Given the proper foundation, this record could have been used to represent the Philips’ team’s per-patent focus in the relevant timeframe and, thus, an allocation metric. Dr. Putnam could have done the same exercise with the outside counsel invoices, CX-0862 through CX-0920, to determine the billing related to licensing (as opposed to solely litigation efforts) (*see* Tr. (Wieghaus) at 82:13-21; Tr. (Putnam) at 472:6-473:7); and then estimate an amount that would have had a nexus to the 186 or

[REDACTED]

564 patents (*see Mezzalingua*, 660 F.3d at 1329). In fact, Dr. Putnam acknowledged the feasibility of such an approach during *3G/4G Wireless Devices*, and was able to come up with a pro-rated number if the ALJ found it necessary:

Dr. Putnam alternatively opined that, should the Commission determine that the full [] of InterDigital’s compensation-related expenses must be pro-rated for the asserted patents – ignoring the basic economic principles of fixed costs – then InterDigital’s domestic industry investments in the asserted patents would be approximately []. (*Id.* at ¶ 82.) But as Dr. Putnam explains, such a requirement would not make economic sense because it fails to account for the fixed input, which are the resources devoted to negotiating licenses that are not specific to any patent. (*See id.* at ¶ 79-80.)

3G/4G Wireless Devices, Initial Determination at 145 n.8. Neither Complainants nor Dr. Putnam attempted this sort of alternate analysis in this investigation though, opting instead for an all-or-nothing approach. As explained above, this has left only unreliable figures.

Accordingly, Complainants have not met their burden to show a sufficient nexus between their claimed investments and the 186 and 564 patents, such that an evaluation of the investment as “substantial” can be performed. *Integrated Circuits*, Comm’n Op. at 30 (“As such, even assuming that the ID’s finding of a nexus between Freescale’s licensing portfolios and the ’455 patent[] is correct, Freescale has failed to present sufficient evidence to allow us to determine what portion of its investment we should consider, and thus, to determine whether its investment is ‘substantial,’ as required by section 337(a)(3)(C).”), 32 (“We, therefore, find that the question of whether Freescale’s investment is substantial cannot be analyzed due to a lack of an adequate evidentiary basis.”). No domestic industry has been shown under subsection (C).

B. “Significant” or “Substantial”

The next step in the evaluation of domestic industry is to determine if the investment amounts identified above are “significant,” as in subsections (A) and (B), or “substantial,” as in subsection (C). The most recent precedential decision by the Court of Appeals for the Federal

[REDACTED]

Circuit addressing this determination is *Lelo*, which restated law applicable to a number of issues surrounding the economic prong of domestic industry. *See Lelo Inc. v. ITC*, 786 F.3d 879, 883-85 (Fed. Cir. 2015). In particular, the Federal Circuit held that the statutory terms “‘significant’ and ‘substantial’ refer to an increase in quantity, or to a benchmark in numbers,” and “[a]n ‘investment in plant and equipment’ therefore is characterized quantitatively, i.e., by the amount of money invested in the plant and equipment.” *Lelo*, 786 F.3d at 883. Continuing, the Federal Circuit held “[a]ll of the foregoing requires a quantitative analysis in order to determine whether there is a ‘significant’ increase or attribution by virtue of the claimant’s asserted commercial activity in the United States.” *Id.* In short, “[q]ualitative factors cannot compensate for quantitative data that indicate insignificant investment and employment.” *Id.* at 885. The Commission has since made clear that some sort of comparative analysis must also be made before significant or substantial can be found. *See, e.g., Gas Spring Nailers*, Inv. No. 337-TA-1082, Notice of Comm’n Determination at 3 (Dec. 12, 2019); *Certain Carburetors and Products Containing Such Carburetors*, Inv. No. 337-TA-1123, Comm’n Op. at 17-19 (Oct. 28, 2019) (“*Carburetors*”).

As determined above, Complainants have not put forward reliable investment figures for: plant and equipment under subsection (A), capital under subsection (B), or licensing under subsection (C). Thus, only labor investments from Roku and Samsung under subsection (B) will be considered for being “significant” under the statute. 19 U.S.C. § 1337(a)(3)(B).

1. **Roku**

As to Roku’s labor, Complainants argue a number of contexts to establish “significance.” Complainants argue the [REDACTED] CIB at 185. Complainants observe that Roku’s “DI Revenue” in [REDACTED]

[REDACTED] *Id.* at 186-

[REDACTED]

187 (citing Tr. (Putnam) at 490:8-491:13; CX-0196C.0007). Complainants summarize, [REDACTED]

[REDACTED]

[REDACTED] CIB at 187.

Complainants have not put forward a persuasive showing of “significance” for Roku’s labor investment. Complainants’ main thrust—that the Roku DI Products are important to Roku’s business model and generate a lot of revenue—misses the mark. While the Commission has occasionally accepted this context in the past, the true question is how important the United States is to the DI Product, not how important the DI Product is to the complainant. *Lelo*, 786 F.3d at 883 (“All of the foregoing requires a quantitative analysis in order to determine whether there is a “significant” increase or attribution by virtue of the claimant's asserted commercial activity in the United States”); *see, e.g., Carburetors*, Comm’n Op. at 18 (providing examples of domestic-to-foreign and “value added to the product from a complainant’s activities in the United States” analyses); *Certain Tobacco Heating Articles and Components Thereof*, Inv. No. 337-TA-1199, Notice at 2-3 (Feb. 18, 2021) (supplementing economic reasoning to add significance based on context of domestic operations as compared to worldwide operations); *Electronic Candles*, Comm’n Op. at 17 (Sept. 13, 2021) (“That significance and substantiality evaluation may employ any number of contextual indicators to prove that the investments are significant or substantial including, *inter alia*, comparing domestic investments to foreign investments, comparing domestic investments to domestic activities, or through the added value by the domestic investment.”); *Certain Beverage Dispensing Systems and Components Thereof*, Inv. No. 337-TA-1130, Comm’n Op. at 20 (Mar. 26, 2020); *Certain Dental and Orthodontic Scanners and Software*, Inv. No. 337-TA-1144, Comm’n Op. at 25 n.10 (Dec. 3, 2020); *see also Certain Movable Barrier Operator Systems and Components Thereof*, Inv. No. 337-TA-1118, Separate Views of Chair Kearns

[REDACTED]

Regarding Economic Prong Issues at 1-3 (Jan. 12, 2021) (discussing importance of considering domestic and foreign expenditures related to the domestic industry products).

Complainants' reference to the portion of revenue brought in by the DI Roku Products fails this test. A calculated share of company revenue does nothing to separate a complainant from a "mere importer." The conclusion does not even make use of the painstakingly calculated domestic investment figure of [REDACTED]. Thus, it is afforded little to no weight. *Electronic Candles*, Comm'n Op. at 18 ("Complainants stated that their domestic "ERDD investments" in articles that practice the '402 patent constitute 2%, 3.5%, and 6% of their total cost of goods for subsections 337(a)(3)(A), (B), and (C), respectively, but did not explain why these percentages show significance.").

Complainants' remaining rationale, "[REDACTED]" is not much better. CIB at 187. While this does cite the calculated labor investment, it is ultimately a qualitative evaluation of value and requires evidentiary and witness support. It receives neither in Complainants' briefing, however. *See id.* To the contrary, Roku's 2020 10-K, not cited by Complainants for this issue, shows Roku's entire "Player" division as earning 2% of Roku's profit share:

	Years Ended December 31,		
	2020	2019	2018
Net Revenue:			
Platform	71%	66%	56%
Player	29%	34%	44%
Total net revenue	100%	100%	100%
Cost of Revenue:			
Platform	28%	23%	16%
Player	27%	33%	39%
Total cost of revenue	55%	56%	55%
Gross Profit:			
Platform	43%	43%	40%
Player	2%	1%	5%
Total gross profit	45%	44%	45%
Operating Expenses:			
Research and development	20%	24%	23%
Sales and marketing	17%	16%	14%
General and administrative	10%	10%	10%
Total operating expenses	47%	50%	47%
Loss from Operations	(2)%	(6)%	(2)%
Other Income, Net:			
Other income, net	—%	1%	1%
Total other income, net	—%	1%	1%
Loss before income taxes	(2)%	(5)%	(1)%
Income tax (benefit) expense	—%	—%	—%
Net loss attributable to common stockholders	(2)%	(5)%	(1)%

CX-0857.0062 (line item Gross Profit: Player). This is the extent of Complainants’ theories of quantitative significance. Accordingly, Complainants have not met their burden on the issue.

There is another substantial obstacle, as well. The evidence strongly suggests the dominant value-add for the DI Roku Products is not the work of the [REDACTED] U.S. engineers, but foreign manufacturing. The company’s 2020 10-K states, “We do not have manufacturing capabilities and primarily depend upon a limited number of contract manufacturers . . . our contract manufacturer’s facilities are located in Southeast Asia, the People’s Republic of China and Brazil.”

CX-0857.0023. It is undisputed that [REDACTED] (see, e.g., CRB at 113; JX-0056C at 36:7-13; Tr. (Putnam) at 503:5-13), yet the cost (i.e., value add) of this work is conspicuously missing from the record.

Contrary to Philips’ contention (*see* CRB at 113), such contract manufacturing is relevant to evaluating significance. *See Electronic Candles*, Comm’n Op. at 18 (Complainants also did not address record evidence showing that they invested \$24 million in 2018 and \$19 million in 2019 in [foreign manufacturing]); *see also Lelo*, 786 F.3d at 884-5 (challenging whether payments made to U.S. subcontractors actually resulted in U.S. investment in capital or labor). And what evidence is available implies an immense foreign investment figure. For example, as reported in the 10-K table above, Roku’s “Player” business (i.e., including more than the Roku DI Products) garnered 29% of total revenue but only 2% profit. That is a large cost-per-dollar of revenue, especially as compared to the “Platform” division (71% / 28%); i.e., a heavy investment. On adjacent pages, the actual cost of this revenue is reported at \$466 million and described as “comprised mostly of player manufacturing costs payable to our third-party contract manufacturer” and a variety of other activities that resemble those of a mere importer:

Cost of Player Revenue

Cost of player revenue is comprised mostly of player manufacturing costs payable to our third party contract manufacturer and technology licenses or royalty fees. Cost of player revenue also includes inbound and outbound freight, duty and logistics costs, third-party packaging and allocated overhead costs related to facilities and customer support, and salaries, benefits, and stock-based compensation for operations personnel.

....

Cost of Revenue

	Years Ended December 31,			
	2020	2019	Change \$	Change %
(in thousands, except percentages)				
Cost of revenue:				
Platform	\$ 503,177	\$ 262,655	\$ 240,522	92%
Player	466,992	371,042	95,950	26%
Total Cost of Revenue	<u>\$ 970,169</u>	<u>\$ 633,697</u>	<u>\$ 336,472</u>	53%
Gross profit:				
Platform	\$ 764,567	\$ 478,121	\$ 286,446	60%
Player	43,652	17,103	26,549	155%
Total Gross Profit	<u>\$ 808,219</u>	<u>\$ 495,224</u>	<u>\$ 312,995</u>	63%

[REDACTED]

CX-0857.0061, .0063. Added to this is Complainant’s expert testimony that Roku’s “[REDACTED]
[REDACTED]”

CIB at 188 (citing Tr. (Putnam) at 493:11-23, 505:25-506:12).

The available evidence also implies Roku’s domestic R&D is an insignificant value-add, quantitatively speaking. For example, [REDACTED]

[REDACTED]

[REDACTED] In fact, Roku’s players brought in \$510 million in revenue in 2020:

Net Revenue				
(in thousands, except percentages)				
	Years Ended December 31,			
	2020	2019	Change \$	Change %
Platform	\$ 1,267,744	\$ 740,776	\$ 526,968	71%
Player	510,644	388,145	122,499	32%
Total Net Revenue	\$ 1,778,388	\$ 1,128,921	\$ 649,467	58%

CX-0857.0062; *see Lelo*, 786 F.3d at 882 (holding a 5% value add was both “modest” and insignificant). If the [REDACTED] Roku DI Product-to-all player revenue allocation is applied to \$466 million in total Player cost, [REDACTED] in Roku DI Product cost emerges, just for 2020. This, perhaps more accurate calculation, dwarfs the promoted investment in the [REDACTED] U.S. engineers (between [REDACTED] value add).

Therefore, it has not been shown that Roku makes “significant” labor investments in the United States relating to the Roku DI Products.

2. Samsung

As to Samsung, Complainants contend, “as Dr. Putnam testified, Samsung’s repair and warranty support service is a pivotal aspect of [] Samsung’s business with respect to the Samsung

[REDACTED]

DI Products.” CIB at 192 (citing Tr. (Putnam) at 500:19-501:2); CRB at 117. Complainants reason:

For example, without Samsung’s guarantee of quality through its warranty promises to customers, and its extensive efforts to honor those warranty promises, consumer confidence in the Samsung brand—which enjoys over 30% of the U.S. television market—would rapidly erode. *Id.* Consequently, these quantitatively significant investments are also qualitatively significant.

CIB at 192 (citing CX-1678).

Complainants have not made out a case for significance for Samsung’s labor investment of [REDACTED]. Again, *Lelo* holds that “significance” hinges on the quantitative importance of or value added from the domestic activity to the patent-practicing article. 786 F.3d at 883; *see, e.g., Certain Pocket Lighters*, Inv. No. 337-TA-1142, Comm’n Op. at 10 (July 13, 2020) (citing *Lelo*, 786 F.3d at 883); *Carburetors*, Comm’n Op. at 18. The only quantitative metric Complainants present is that the Samsung brand enjoys 30% of the U.S. television market. Not only is this figure not limited to the Samsung DI Products (as it must be), it says nothing about the relative contributive value of the repair and service activities to those products. Even then, the questions of where the television sets are manufactured, researched and developed, etc., go unanswered. This is, again, critical information to weigh alongside the domestic service and repair investment, and should not be ignored for hardware-based, capital intensive products. Respondents also raise point out that [REDACTED] is a “very small fraction” of Samsung’s calculated cost-of-sale for the products of \$615 million—although it is not entirely clear how this cost was calculated. RIB at 182 (citing Tr. (Leonard) at 1349:15-24; RX-0805.0007).

Accordingly, it has not been shown that Samsung makes “significant” labor investments under subsection (B).

IX. CONCLUSIONS OF LAW

No violation of Section 337 by the Accused Products has been proven. Specifically:

[REDACTED]

(1) Complainants have proven that at least one Accused Product within the scope of this investigation infringes all asserted claims of U.S. Patent No. 10,091,186.

(2) Complainants have not proven that any Accused Product infringes any asserted claim of U.S. Patent No. 10,298,564.

(3) Respondents have not proven the invalidity of any asserted claim of U.S. Patent Nos. 10,091,186 or 10,298,564.

(4) Complainants have not proven the existence of a domestic industry practicing any claim of U.S. Patent Nos. 10,091,186 or 10,298,564.

(5) Complainants have not proven the existence of a domestic industry as required by subsection (a)(2) of section 337.

X. RECOMMENDED DETERMINATION ON REMEDY AND BOND

The Commission's Rules provide that subsequent to an initial determination on the question of violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, the administrative law judge shall issue a recommended determination concerning the appropriate remedy in the event that the Commission finds a violation of section 337, and the amount of bond to be posted by respondent during Presidential review of the Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(1)(ii).

The Commission has broad discretion in selecting the form, scope, and extent of the remedy in a section 337 proceeding. *Viscofan, S.A. v. Int'l Trade Comm'n*, 787 F.2d 544, 548 (Fed. Cir. 1986). Under Section 337(d)(1), if the Commission determines as a result of an investigation that there is a violation of section 337, the Commission is authorized to enter either a limited or a general exclusion order. 19 U.S.C. § 1337(d)(1). A limited exclusion order ("LEO") instructs the U.S. Customs and Border Protection ("CBP") to exclude from entry all articles that

[REDACTED]

are covered by the patent at issue and that originate from a named respondent in the investigation. A general exclusion order instructs the CBP to exclude from entry all articles that are covered by the patent at issue, without regard to source. *Certain Purple Protective Gloves*, Inv. No. 337-TA-500, Comm’n Op. at 5 (Dec. 22, 2004).

Under section 337(f)(1), the Commission may issue a cease and desist order (“CDO”) in addition to, or instead of, an exclusion order. 19 U.S.C. § 1337(f)(1). The Commission generally issues a cease and desist order directed to a domestic respondent when there is a “commercially significant” amount of infringing, imported product in the United States that could be sold, thereby undercutting the remedy provided by an exclusion order. *See Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, USITC Pub. 2391, Comm’n Op. on Remedy, the Public Interest and Bonding at 37-42 (June 1991); *Certain Condensers, Parts Thereof and Prods. Containing Same, Including Air Conditioners for Automobiles*, Inv. No. 337-TA-334 (Remand), Comm’n Op. at 26-28 (Sept. 10, 1997).

Additionally, during the 60-day period of Presidential review under 19 U.S.C. § 1337(j), “articles directed to be excluded from entry under subsection (d) . . . shall . . . be entitled to entry under bond prescribed by the Secretary in an amount determined by the Commission to be sufficient to protect the complainant from any injury.” *See* 19 U.S.C. § 1337(j)(3). “The Commission typically sets the bond based on the price differential between the imported infringing product and the domestic industry article or based on a reasonable royalty. However, where the available pricing or royalty information is inadequate, the bond may be set at one hundred (100) percent of the entered value of the infringing product.” *Certain Industrial Automation Systems and Components Thereof Including Control Systems, Controllers, Visualization Hardware, Motion and Motor Control Systems, Networking Equipment, Safety Devices, and Power Supplies*,

[REDACTED]

Inv. No. 337-TA-1074, Comm’n Op. at 13 (Apr. 23, 2019) (“*Automation Systems*”) (public version) (citation omitted).

Before any of an LEO, GEO, or CDO issue, the Commission must “consider[] the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers.” 19 U.S.C. § 1337(d)(1); *Certain High-Density Fiber Optic Equipment and Components Thereof*, Inv. No. 337-TA-1194, Comm’n Op. at 88 (Aug. 23, 2021). In this investigation, the Commission has ordered, “the [] administrative law judge shall take evidence or other information and hear arguments from the parties and other interested persons with respect to the public interest in this investigation, as appropriate, and provide the Commission with findings of fact and a recommended determination on this issue, which shall be limited to the statutory public interest factors set forth in 19 U.S.C. §§ 1337(d)(1) and (f)(1).” 85 Fed. Reg. 67374.

A. Limited Exclusion Order

Should a violation be found, Complainants contend a “Limited Exclusion Order directed to the relevant products of the named Respondents, pursuant to 19 U.S.C. § 1337(d), excluding any articles that infringe one or more claims of the Asserted Patents” should issue. CIB at 199. Complainants acknowledge that “Respondents [have advanced] arguments that the public interest would somehow be harmed should the requested remedy go into effect,” but argue the effort was half-hearted as “Respondents simply chose not to put on any evidence at trial on the issue, even after affirmatively representing to the ALJ, Philips, and Staff that Dr. Leonard would offer testimony on the topic.” CRB at 118. Thus, Complainants summarize, “the only expert testimony offered at trial convincingly established that there would be no economically significant adverse

[REDACTED]

impact on any of the public interest factors should the requested remedies be imposed.” *Id.* at 118-119.

Respondents indeed make a cursory note that any remedial order would cause a “serious market disruption . . . to a nation still recovering from the pandemic,” but acknowledge that tailored orders may “best serve the public interest.” RIB at 197. For example, Respondents argue any limited exclusion order should contain the standard certification provision “allowing Respondents to self-certify that products being imported are not excluded from entry.” RIB at 197 (citation omitted). For support, Respondents refer to those products which had been accused of infringement in this investigation but since dropped, an alleged lack of evidence provided by Complainants for others, and a further set of “internal chip components that cannot be readily identified by U.S. Customs agents at the ports of entry.” *See id.* at 197-198. Respondents specifically contend:

Any remedy, if entered, for the '186 patent should therefore be limited to products using Intel's current [REDACTED] driver. No remedial order should bar the importation or sale of: (1) Intel [REDACTED] because Philips withdrew its infringement assertion and has not provided any evidence of indirect infringement; (2) accused products running an operating system other than [REDACTED] (e.g., Chromebooks running Chrome OS); (3) accused products utilizing Intel's [REDACTED] including only wireless HDCP 2.x support (Tr. at 33:14-34:16); or (4) [REDACTED]. Similarly, any remedy, if entered, for the '564 patent should not include (1) any Realtek products included in the Parties' stipulation (EDIS 747167) and products incorporating those SoCs; (2) any '564 Accused Products that only support HDCP 1.4, *supra* Part III.B.9.; and (3) any '564 Accused Products that can be used with licensed HDCP 2.2 transmitter products (“first devices”), including the '186 Domestic Industry Products, *supra* at Part III.B.2.

Id. at 198.

Staff concurs with Complainants' position. Should a violation be found, Staff recommends a limited exclusion order remedy. SIB at 96.

[REDACTED]

It is hereby recommended that a limited exclusion order issue in the event of a violation, pursuant to statute. 19 U.S.C. § 1337(d) (“[the Commission] shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States . . .”). As to certification provisions, the Commission has instructed that “[c]ertification provisions aid U.S. Customs and Border Protection (‘CBP’) in enforcing Commission orders but ‘do not mandate that CBP accept certification as proof that the articles in question are not covered’ by the limited exclusion order.” *Certain Robotic Vacuum Cleaning Devices and Components Thereof Such as Spare Parts*, Inv. No. 337-TA-1057, Comm’n Op. at 55 (Feb. 1, 2019). Additionally, “[t]he standard provision does not allow an importer to simply certify that it is not violating the exclusion order. Rather, CBP only accepts a certification that the goods have been previously determined by CBP or the Commission not to violate the exclusion order” and “it has been Commission practice for the past several years to include certification provisions in its exclusion orders to aid CBP.” *See Certain Road Milling Machines and Components Thereof*, Inv. No. 337-TA-1067, Comm’n Op. at 15, 15 n. 5 (Aug. 7, 2019) (citations omitted); *Certain Road Construction Machines and Components Thereof*, Inv. No. 337-TA-1088, Comm’n Op (Modification) at 17 (Sept. 14, 2020) (“[B]ecause [Respondent’s] redesigned machines were not adjudicated during the investigation, they cannot be imported using the LEO’s certification provision. To obtain entry of its redesigns into the United States pursuant to the certification provision, [Respondent], the adjudged infringer, must establish that those machines do not infringe the asserted patent.”). The language of a “standard” certification provision is as follows:

At the discretion of U.S. Customs and Border Protection . . . and pursuant to the procedures it establishes, persons seeking to import road construction machines and components thereof, that are potentially subject to this Order may be required to certify that they are familiar with the terms of this Order, that they have made appropriate inquiry, and thereupon state that, to the best of their knowledge and belief, the products being imported are not excluded from entry under paragraph 1

[REDACTED]

of this Order. At its discretion, [Customs] may require persons who have provided the certification described in this paragraph to furnish such records or analyses as are necessary to substantiate this certification.

Road Construction Machines, Comm’n Op. at 14. The mechanisms described in this standard provision would seem adequate to address all of Respondents’ requested exceptions to an LEO. *See* RIB at 198. Therefore, none of these exceptions are recommended to be included within the language of the LEO.

B. Cease and Desist Order

Should a violation be found, Complainants argue CDOs should issue “prohibiting the Respondents from engaging in the unlawful importation into and/or sale within the United States of infringing articles.” CIB at 200. Complainants contend “all Respondents (except for MediaTek and Realtek) maintain a commercially significant inventory of Accused Products in the United States.” *Id.* (citing JX-0010C (Dell); JX-0012C (Hisense); CX-0250C (HP); JX-0011C (Lenovo); CX-1667C (TCL); CX-0310C (Intel)); *see* CRB at 119.

Respondents oppose the issuance of any CDOs. RIB at 199. Respondents note the remedy is discretionary (*id.* (citing 19 U.S.C. § 1337(f)(1))), and assert, “Philips presented no evidence at trial that Respondents maintain commercially significant inventories in the U.S. or that Respondents’ domestic operations would undercut an exclusion order” (*id.* at 199-200). As to specific respondents, Respondents emphasize that “Philips narrowed its infringement case as to Intel at the last minute to only accuse Intel’s [REDACTED]

[REDACTED] RRB at 124.

Respondents add that Complainants otherwise have not presented any evidence on [REDACTED]

[REDACTED] *See id.* (citing CIB at 200; CX-0310C)). For HP, Respondents argue it has not been shown that the inventory of [REDACTED] units is commercially

[REDACTED]

significant as it is just [REDACTED] of HP's sales of those products in 2020. RRB at 124-125 (citing RX-4036).

Staff argues that all respondents, except Realtek, "maintain commercially significant inventory of Accused Products in the United States," and thus CDOs are warranted against those parties. *See* SRB at 71.

Complainants bear the burden on the issue of cease and desist orders. *Certain Microfluidic Devices*, Inv. No. 337-TA-1068, Comm'n Op. at 23 (Jan. 10, 2020). Such orders "are generally issued when, with respect to the imported infringing products, respondents maintain commercially significant inventories in the United States or have significant domestic operations that could undercut the remedy provided by an exclusion order." *Id.* at 22-23 (citations omitted). Contrary to Respondents' assertion, Complainants have provided unrebutted evidence demonstrating respondents Dell, Hisense, Lenovo, and TCL each hold between [REDACTED] of inventory of accused products in the United States. CIB at 200. It is reasonable to conclude these are commercially significant amounts of inventory. As for HP, the [REDACTED] figure is diminutive, but it is undisputed that the [REDACTED] laptops/monitors are valued at [REDACTED], i.e., a commercially significant amount.

It has not been shown, however, that a CDO is warranted for Intel. As Respondents point out, the only record of inventory cited by Complainants, CX-0310C ([REDACTED]), appears to be limited to [REDACTED]. *See* Tr. (Mangione-Smith) at 155:7-14; CPX-0079C. Even if not so limited, Complainants have not attempted to explain what the amount of [REDACTED] is or how they constitute a commercially significant inventory.

[REDACTED]

Accordingly, it is recommended that cease and desist orders issue against only Dell, Hisense, Lenovo, TCL, and HP.

C. Bond

The Commission has held that “[t]he complainant bears the burden of establishing the need for a bond” during the Presidential Review period. *See Robotic Vacuums*, Inv. No. 337-TA-1057, Comm’n Op. at 68. Philips does not seek a bond. *See CIB* at 193-200; *CRB* at 118-119. Accordingly, it is recommended that no bond requirement should issue.

D. Public Interest

As noted above, the Commission has delegated a public interest analysis to my consideration of remedy. 85 Fed. Reg. 67374. Complainants contend that, in each of the contexts prescribed by 19 U.S.C. § 1337(d)(1), “the public interest will be served by the immediate entry of a limited exclusion order . . . and no delay in imposing the requested remedy is justified or appropriate here” and that the sole expert testimony supports finding no economically significant adverse impacts to the public. *See CIB* at 193-194.; *see generally id.* at 193-199. In reply, Complainants criticize Respondents for putting forth no expert testimony on the topic, despite extensive discovery earlier in the investigation. *See CRB* at 118.

Respondents, for their part, do not discuss public interest in the context of 19 U.S.C. § 1337(d)(1), but generally claim a 3-6 month delay in the enforcement of any order is needed to allow [REDACTED]

[REDACTED] *Id.* at 198-199; *RRB* at 124. The delay, according to Respondents, would also [REDACTED]

[REDACTED] and “aid in “determin[ing] which products are sold to the U.S.

[REDACTED]

government, and thus exempt from any remedial orders under § 1337(l).” RIB at 199. It is also implied in their briefing that the public interest justifies “an exception for articles for use in servicing, repairing, or replacing any accused products under warranty or insurance contract.” *Id.* at 198.

In their reply, Respondents allege they investigated public interest in good faith, but at the same time “further invested in [REDACTED]

[REDACTED] See RRB at 123. Respondents view this as its own form of “protect[ing] the public interest” (*id.*) and otherwise argue the entire issue is one “that could have been avoided if Philips had conceded that it had no good faith basis to allege infringement for [REDACTED] [REDACTED] *Id.*

Like Complainants, Staff views Respondents’ failure to provide expert testimony in support of their public interest position negatively; and finds Complainants’ expert testimony persuasive. See SIB at 97-98. Staff argues Intel contradicts itself by [REDACTED] [REDACTED] SRB at 73. Thus, Staff contends “the evidence does not show that the issuance of any remedial orders in this investigation should be denied (or delayed) due to any adverse impact on the public interest.” SIB at 98; see SRB at 73.

Complainants and Staff have persuasively shown that modifications to the requested remedies are not warranted in light of the public interest. Respondents’ only request—a 3-6 month delay—seems to stem from respondent Intel’s need to [REDACTED] Yet, Intel products are not at issue for the 564 patent, so no delay would be warranted under that patent in the first place. See CX-2032C. As to the 186 patent, where Intel is at issue, the importance of the [REDACTED] is

[REDACTED]

greatly undercut by Respondents' parallel assertion that [REDACTED]

[REDACTED] RRB at 123. It is indeed difficult to see how a non-infringement concession by a private litigant could affect [REDACTED]

[REDACTED]

That said, Respondents' do offer the strong statistic that "[REDACTED] RIB at 198 (citing RX-0713C). [REDACTED]

[REDACTED], and thus not supportive or even germane to Respondents' point. As to the government exemption under 19 U.S.C. § 1337(l), this is included in exclusion orders as a matter of course, and does not support a delay either. Any difficulty with the identification of customers—U.S. government or other—for the accused products, even if true, would not be cured by a one-time delay. These circumstances, coupled with a lack of assistive expert testimony, prevent recommendation of the requested delay based on public interest concerns, for either patent.

As for the requested service and repair exception, Respondents do not explain with specificity why it is justified (*see* RIB at 198), yet the Commission does appear to include similar provisions without much controversy (*id.* (citing *Certain Mobile Devices, Associated Software, and Components Thereof*, Inv. No. 337-TA-744, Comm'n Notice (May 18, 2012)); *see Certain Mobile Devices*, Inv. No. 337-TA-744, Comm'n Op. at 21-22, 36 (June 5, 2012) (summarizing party argument and adopting the exception)). Thus, it is recommended that the exception be included, although Respondents (with the exception of Intel) likely carry sufficient inventory within the United States to satisfy service and repair requests. *See* CIB at 200.

XI. INITIAL DETERMINATION AND ORDER

Based on the foregoing,¹⁰ it is my Initial Determination that there is no violation of Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain digital video-capable devices and components thereof, in connection with the asserted claims of U.S. Patent Nos. 10,091,186 and 10,298,564. Furthermore, it is my determination that no domestic industry in the United States exists that practices or exploits U.S. Patent Nos. 10,091,186 and 10,298,564.

I certify to the Commission this Initial Determination, together with the Record of the hearing in this investigation consisting of the following: the transcript of the evidentiary hearing, with appropriate corrections as may hereafter be ordered; and the exhibits accepted into evidence in this investigation.¹¹

Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission sixty (60) days after the date of service of the Initial Determination, unless a party files a petition for review of the Initial Determination within twelve (12) business days after service of the Initial Determination pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion, a review of the Initial Determination or certain issues therein. Any issue or argument not raised in a petition for review,

¹⁰ The failure to discuss any matter raised by the parties or any portion of the Record herein does not indicate that said matter was not considered. Rather, any such matter(s) or portion(s) of the Record has/have been determined to be irrelevant, immaterial or meritless. Arguments made on brief which were otherwise unsupported by Record evidence or legal precedent have been accorded no weight.

¹¹ The pleadings of the parties filed with the Secretary need not be certified as they are already in the Commission's possession in accordance with Commission rules.

[REDACTED]

or response thereto, will be deemed to have been abandoned and may be disregarded by the Commission in reviewing the Initial Determination pursuant to 19 C.F.R. § 210.43(b) and (c).

Confidentiality Notice:

This Initial Determination is being issued as confidential, and a public version will be issued pursuant to Commission Rule 210.5(f). Within seven (7) days of the date of this Initial Determination, the parties shall jointly submit: (1) a proposed public version of this opinion with any proposed redactions bracketed in red; and (2) a written justification for any proposed redactions specifically explaining why the piece of information sought to be redacted is confidential and why disclosure of the information would be likely to cause substantial harm or likely to have the effect of impairing the Commission's ability to obtain such information as is necessary to perform its statutory functions.¹²

SO ORDERED.



Cameron Elliot
Administrative Law Judge

¹² Under Commission Rules 210.5 and 201.6(a), confidential business information includes information which concerns or relates to the trade secrets, processes, operations, style of works, or apparatus, or to the production, sales, shipments, purchases, transfers, identification of customers, inventories, or amount or source of any income, profits, losses, or expenditures of any person, firm, partnership, corporation, or other organization, or other information of commercial value, the disclosure of which is likely to have the effect of either impairing the Commission's ability to obtain such information as is necessary to perform its statutory functions, or causing substantial harm to the competitive position of the person, firm, partnership, corporation, or other organization from which the information was obtained, unless the Commission is required by law to disclose such information. *See* 19 C.F.R. § 201.6(a). Thus, to constitute confidential business information the disclosure of the information sought to be designated confidential must likely have the effect of either: (1) impairing the Commission's ability to obtain such information as is necessary to perform its statutory functions; or (2) causing substantial harm to the competitive position of the person, firm, partnership, corporation, or other organization from which the information was obtained.