

**UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

MOTOROLA SOLUTIONS, INC., et al.

Plaintiffs,

v.

HYTERA COMMUNICATIONS
CORPORATION LTD.,

Defendant.

Case No. 1:17-cv-01973

Judge Martha M. Pacold

MEMORANDUM OPINION AND ORDER

Over the course of nearly two decades, plaintiffs Motorola Solutions, Inc., and Motorola Solutions Malaysia Sdn. Bhd. (collectively, Motorola) developed two-way digital mobile radio (DMR) products, including the operating software for the radios. Motorola’s chief competitor, defendant Hytera Communications Corporation Ltd. (Hytera), tried in vain to develop its own DMR products. But after years of effort, Hytera did not even have a working prototype. So “Hytera hatched a new plan: ‘leap-frog Motorola’ by stealing its trade secrets.” *Motorola Sols., Inc. v. Hytera Commc’ns Corp.*, 108 F.4th 458, 468 (7th Cir. 2024).

The plan began at the highest levels of Hytera’s corporate brass: President and CEO Chen Qingzhou personally negotiated with a Motorola engineer, convincing him to leave Motorola and join Hytera. Two other engineers followed and surreptitiously downloaded more than 10,000 documents, including both source code and technical documents—the “‘playbook’ by which Motorola engineers built its two-way radio devices,” [1100]¹ ¶ 7—from Motorola’s secure databases. Armed with Motorola’s trade secrets, Hytera was able to accomplish what it previously could not: “Between 2010 and 2014, Hytera launched a line of DMR radios that were, as described at trial, functionally indistinguishable from the DMR radios developed and sold by Motorola.” *Motorola Sols.*, 108 F.4th at 470. “For years, Hytera sold these professional-tier radios containing Motorola’s confidential and proprietary technology worldwide, including in the United States.” *Id.* In short, Hytera used the stolen information to make itself a significant player in the DMR market (and a significant competitor to Motorola).

¹ Bracketed numbers refer to docket entries and are followed by page and / or paragraph number citations. Page numbers refer to the CM/ECF page number.

In 2017, Motorola filed this suit, alleging trade secret misappropriation and copyright infringement. After a three-and-a-half month trial, a jury “returned a verdict in favor of Motorola in all respects,” *id.*, finding “all trade secrets misappropriated and all copyrights infringed” and “award[ing] the maximum available damages to Motorola,” [1097] at 3. Judge Norgle, who was then presiding, later observed that the verdict was “supported by overwhelming evidence,” [1088] at 2, and remarked that “Hytera’s misappropriation was willful and malicious,” [1156] at 2. On appeal, Hytera did not contest liability. As the Seventh Circuit observed: “The most startling fact about these appeals is that Hytera’s liability is not at issue. It concedes that it engaged in the blatant theft of trade secrets and copying of proprietary computer code.” *Motorola Sols.*, 108 F.4th at 468. And “Hytera’s employees understood that their use of Motorola’s copyrighted code and trade secrets was unlawful.” *Id.* at 470.

After trial, Judge Norgle issued an order requiring Hytera to pay royalties to Motorola for each sale of the products accused at trial. [1349] at 3. The question now before the court is whether Hytera violated the royalty order by selling its redesigned “H-Series” products, launched after trial, without paying royalties.²

Although Hytera contends that the H-Series was the result of a redesign and thus not covered by the royalty order, the court concludes—based on the evidence submitted by the parties and presented at a week-long hearing—that the H-Series is substantially like the products adjudicated at trial. The H-Series is built on the same basic foundation as the products covered in the royalty order and thus continues to unfairly benefit from the work Motorola did to solve the myriad engineering issues entailed in constructing a DMR platform. What Hytera labels a redesign is in truth substantially the same product.

For the reasons explained below, Motorola’s motion to hold Hytera in contempt, [1678], is granted. Hytera is ordered to pay \$59,300,624 in unpaid royalties on H-Series products and \$11,173,428 in interest.

BACKGROUND

The factual and procedural history of this case is set forth in the Seventh Circuit’s July 2, 2024 opinion, *Motorola Sols.*, 108 F.4th 458, and in prior district court orders, *e.g.*, [1088], [1100], [1503]. At the risk of repetition, it is important to relate that history, as it provides context for Hytera’s redesign and launch of the H-Series products at issue here.

² The parties’ briefs also discuss whether and to what extent Hytera remains obligated to pay the per diem civil contempt fines the court imposed to compel compliance with its March 25, 2024 antisuit injunction order. The court addresses that issue in a separate opinion issued contemporaneously with this one.

I. Hytera Steals Motorola's DMR Technology

Motorola developed its DMR technology over the course of several decades, dating back to the late 1980s and into the 2000s. [1088] at 2. In 2006, Hytera was having difficulty developing comparable DMR products. *Motorola Sols.*, 108 F.4th at 469; [1088] at 2. Rather than competing fairly, Hytera stole Motorola's trade secrets and copyrighted code in an attempt to "leapfrog Motorola' to become the world's preeminent provider of DMR radios." *Motorola Sols.*, 108 F.4th at 469; [1088] at 2–4.

In June 2007, Chen Qingzhou, the president and CEO of Hytera, reached out to G.S. Kok, an engineer who worked for Motorola in Malaysia. Chen negotiated Kok's move from Motorola to Hytera, promising him 600,000 shares in Hytera (worth \$2.5 million when Hytera eventually went public). *Motorola Sols.*, 108 F.4th at 469; [1088] at 2–3 & n.1. On arrival at Hytera, Kok expressed surprise that although Hytera had been working on the digital radio project for three years, Hytera did not even have a working prototype. He wrote in an email that Hytera needed an "injection of subject matter experts" to leapfrog Motorola in the market. [1088] at 3.

Hytera then hired Y.T. Kok and Sam Chia, two additional engineers who worked for Motorola in Malaysia. *Id.*; *Motorola Sols.*, 108 F.4th at 469. Y.T. Kok initially maintained his employment with Motorola while also working for Hytera surreptitiously. *Motorola Sols.*, 108 F.4th at 469; [1088] at 3. "In June 2008, shortly after Y.T. Kok had secretly been added to Hytera's payroll, he downloaded over a hundred Motorola documents in response to specific requests from Hytera about unresolved issues with its own DMR radios." *Motorola Sols.*, 108 F.4th at 469. Between them, Y.T. Kok and Sam Chia downloaded more than 10,000 technical documents from Motorola's secure databases and brought them to Hytera. *Id.*; [1088] at 3. At the time of trial (more than ten years later), more than 1,600 of those documents remained in Hytera's databases. *Motorola Sols.*, 108 F.4th at 469; [1088] at 3.

The stolen files included both Motorola's source code (*i.e.*, the actual code that operates the radios) and technical documents (*e.g.*, specifications—descriptions of the functionality required of source code, which software engineers use to write source code). *See, e.g.*, Trial Tr. 615:17–621:2. "Segments of the stolen code were later directly inserted into Hytera's products. Proof of the theft and copying included the fact that minor coding errors in Motorola's code appeared in exactly the same spots in Hytera's code." *Motorola Sols.*, 108 F.4th at 469–70.

"Hytera's employees understood that their use of Motorola's copyrighted code and trade secrets was unlawful. At times, Hytera modified Motorola's code to conceal its illicit origins. Hytera's engineers also circulated Motorola's code and technical documents, sometimes with the Motorola logo replaced by a Hytera logo, but other times still labeled with Motorola's logo." *Id.* at 470.

“Between 2010 and 2014, Hytera launched a line of DMR radios that were, as described at trial, functionally indistinguishable from the DMR radios developed and sold by Motorola. For years, Hytera sold these professional-tier radios containing Motorola’s confidential and proprietary technology worldwide, including in the United States.” *Id.*

II. Trial and Jury Verdict

Motorola filed this lawsuit on March 14, 2017, alleging trade secret misappropriation and copyright infringement.

Trial began on November 6, 2019. On February 14, 2020, after three-and-a-half months of trial and roughly two hours of deliberations, “[t]he jury returned a verdict in favor of Motorola in all respects, awarding Motorola \$345.8 million in compensatory damages and \$418.8 million in punitive damages, for a total of \$764.6 million.” *Id.*; *see also* [1088] at 1, 4; [894]. This was the full damages for which Motorola had been allowed to argue. [1088] at 1, 4.

As is typical, the jury’s verdict decided only retrospective damages, not prospective relief. *See* [1100] at 2 (for both trade secret and copyright claims, the last date for which Motorola sought damages was June 30, 2019, several months before trial).

III. Posttrial Litigation, H-Series Redesign & Launch, and Royalty Order

As explained in more detail below, extensive posttrial litigation ensued. Between the February 14, 2020 verdict and the July 5, 2022 final royalty order, Judge Norgle issued eight rulings spanning more than 150 pages. [1088]; [1097]; [1100]; [1156]; [1289]; [1338]; [1348]; [1349].

As relevant here:

- As to past damages, Judge Norgle reduced the damages award to \$543.7 million.
- As to the prospective remedy, Motorola sought a permanent injunction against further sales of Hytera’s accused products. [961]. Instead, Judge Norgle imposed an order requiring Hytera to pay royalties on ongoing sales of the adjudicated products. [1097]; [1349]. Judge Norgle limited the scope of the royalty order to sales of “Covered Products,” meaning those products that Motorola had identified at trial as incorporating its trade secrets and infringing its copyrights. *See* [1289] at 7; [1349]; [1118-3]. Like the rest of the posttrial litigation, the litigation over the prospective remedy was complex and spanned multiple rounds of briefing and multiple rulings by Judge Norgle, all of which took time.
- While these disputes remained ongoing, Hytera began and completed its redesign. The result was the H-Series—Hytera’s new line of DMR products.

The court now turns to a more detailed discussion of the posttrial litigation and the royalty order.

A. Judge Norgle Denies Motorola's Motion for a Permanent Injunction and Imposes an Ongoing Royalty

Four days after the verdict, on February 18, 2020, Motorola applied for a temporary restraining order enjoining Hytera from any further misappropriation of Motorola's trade secrets or infringement of Motorola's copyrights, including further sales of the DMR products at issue at trial. [899]; [900]; [901]. The parties briefed that motion and other matters. In the meantime, COVID arrived.

On April 2, 2020, Motorola filed a motion for a permanent injunction. [961]. The parties briefed Motorola's motion (along with numerous filings on other issues) over the summer and fall of 2020. [987]; [996]; [1080]; [1084].

Around the same time, in the spring of 2020, Hytera began the redesign that led to the H-Series. [1696] (McDonald Decl.) ¶¶ 8–9. Neither this timing nor the redesign more generally came up in the litigation at the time, presumably because the existence of the H-Series was not publicly disclosed until the H-Series launch. *See* Hr'g Tr.³ 10:20–11:20, 71:2–8. The redesign would ultimately take approximately 18 months, with the H-Series launching in October 2021. [1763] at 8.

On December 17, 2020, Judge Norgle denied Motorola's motion for a permanent injunction and granted Motorola's alternative request for a reasonable royalty. [1097]. Judge Norgle explained that the court would order Hytera "to pay a reasonable royalty to Motorola for the future use of Motorola's trade secrets"—in an amount to be determined. *Id.* at 1–2.

The royalty order was authorized by the remedies provisions of the Defend Trade Secrets Act. Under the DTSA, a court in a civil trade secret case may grant an injunction either (i) "to prevent any actual or threatened misappropriation" of trade secrets or (ii) "if determined appropriate by the court, requiring affirmative actions to be taken to protect the trade secret." 18 U.S.C. § 1836(b)(3)(A)(i)–(ii). Alternatively, "in exceptional circumstances that render an injunction inequitable," the court may order an injunction that "conditions future use of the trade secret upon payment of a reasonable royalty." *Id.* § 1836(b)(3)(A)(iii).

In the order denying Motorola's motion for a permanent injunction, Judge Norgle explained that exceptional circumstances—including the "scope, impact, and difficulties a worldwide injunction could cause, particularly during an ongoing pandemic"—rendered an injunction inequitable. [1097] at 6. Accordingly, Judge Norgle denied the motion for a permanent injunction but granted Motorola's

³ The transcripts of the August 26–30, 2024 contempt hearing are located at [1757]–[1761].

alternative request, ordering Hytera to “pay a reasonable royalty to Motorola for the future use of Motorola’s trade secrets.” *Id.* at 1. However, because the arguments as to the exact royalty rate were “undeveloped” in the briefing on the motion for a permanent injunction, Judge Norgle ordered the parties to “confer and propose a process as to determining this royalty.” *Id.* at 6.

B. Judge Norgle Resolves Royalty Order Disputes

Over the next few months, the parties filed several briefs and expert submissions regarding the royalty. The parties disputed—among other issues—the products to which the royalty would apply. *See* [1119] at 19; [1118-3]. On January 28, 2021, Motorola proposed a broad definition, [1118-3] at 2, which listed accused products by model number but also included catchall language such as “[a]ll products running DMR software versions 1.x through 9.x, as well as PDC versions 1.5, 1.6, and R2.x, as well as any products running software derived from or relying on source code from any of those versions in whole or in part” and “[a]ll products developed, in whole or in part, with any of Motorola’s Trade Secret Information or Copyrighted Works.” *Id.* (footnote omitted).

In response, Hytera argued that Motorola’s list defined “trade secrets” and “copyrighted works” as vaguely and broadly as possible and went far beyond the intellectual property adjudicated at trial. Hytera further argued that Motorola’s proposed “in part” language was inconsistent with Seventh Circuit precedent requiring that the product be “substantially derived” from the trade secrets adjudicated at trial. [1131] at 14–15 & n.7. In reply, Motorola argued that all models listed in its submission, [1118-3], were adjudicated at trial and that the court had already held that Motorola’s trade secrets were sufficiently specific. Motorola agreed with Hytera’s proposed modification of “in part” to “substantially derived.” [1141] at 12 & n.11.

Meanwhile, by October 2021—while the parties were still actively litigating many key aspects of the forthcoming royalty order—Hytera launched its new H-Series products in Europe. *See* [1763] at 8. When the H-Series launched in the United States two months later, company representatives publicly described it as having been fully redesigned “from the ground up” “in a clean room.” *Id.* at 11.

On December 14, 2021, Judge Norgle issued a forty-one page order evaluating the *Georgia-Pacific* factors⁴ and the parties’ experts’ analyses to set the royalty rate.

⁴ *See Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970). Application of the *Georgia-Pacific* factors is the “common approach” to royalty calculation that “attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.” *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009). To choose a reasonable royalty, the court applies fifteen nonexhaustive factors—including the extent to which the infringer has made

In the same order, Judge Norgle also made the first ruling as to which products would be subject to the royalty. The ruling “conclude[d] that a perpetual royalty of \$80.32 per radio and \$378.16 per repeater is reasonable and appropriate on Hytera’s sales of its *products, as specifically identified by Motorola*, that incorporate Motorola’s misappropriated trade secrets and infringed copyrights starting July 1, 2019.” [1289] at 1 (emphasis added). The order explained:

The parties also disagree as to the propriety of Motorola’s definitions of its trade secrets and copyrighted works in connection with Motorola’s identification of the Hytera products that should be subject to the ongoing royalty, but the Court concludes that dispute is immaterial. It is enough that Motorola has specifically identified the Hytera products to which the ongoing royalty applies. As a result, the Court concludes that the ongoing royalty applies to the Hytera products *that Motorola specifically identifies in its submission*. See Dkt. 1118-3 (Motorola’s list of “Accused Products”).

Id. at 7 (emphasis added).

This language—the “products that Motorola specifically identifie[d] in its submission. See Dkt. 1118-3 (Motorola’s list of ‘Accused Products’)”—referred to a list of approximately forty-one product numbers accused (and thus adjudicated) at trial (e.g., “MD65X,” “PD50X,” “PDC76X R1.5,” “RD106Xi,” “X1e”). [1118-3] at 2–3. Motorola had filed that list (entitled “Appendix A”) on January 28, 2021. [1118-3].⁵

Essentially, the December 14, 2021 ruling was that the royalty order would apply to the products adjudicated at trial, which Motorola had listed by product number in its January 28, 2021 filing. [1118-3].

In the same December 14, 2021 order, Judge Norgle addressed other disputes between the parties regarding the royalty. Among other things, he ordered Hytera to keep Motorola’s trade secrets and copyrights confidential, allowing Hytera to use

use of the invention. *See Georgia-Pacific*, 318 F. Supp. at 1120; *Lucent Techs.*, 580 F.3d at 1325 (reviewing the “damages award within the *Georgia-Pacific* framework”).

⁵ As filed, Appendix A itself ([1118-3]) included not only the list of product numbers accused (and thus adjudicated) at trial, but also several bullet points with catchall language, e.g., “[a]ll products running DMR software versions 1.x through 9.x, . . . as well as any products running software derived from or relying on source code from any of those versions in whole or in part”; “[a]ll products developed, in whole or in part, with any of Motorola’s Trade Secret Information or Copyrighted Works.” [1118-3] at 2. However, the parties do not contest that, from Appendix A ([1118-3]), the royalty order incorporated only the list of products specifically identified by model number (e.g., “MD65X,” “PD50X,” “PDC76X R1.5,” “RD106Xi,” “X1e”), not the catchall language (e.g., “[a]ll products developed, in whole or in part, with any of Motorola’s Trade Secret Information or Copyrighted Works”).

them only “in conjunction with the products subject to the royalty.” [1289] at 40. Judge Norgle also directed the parties to jointly file a proposed royalty agreement for the court’s review and approval. *Id.* at 1.

On February 24, 2022, the parties filed a joint proposed royalty agreement. [1308]; [1309]. But they continued to dispute “dozens of items” in the proposed agreement, including the definition of “Covered Products” and whether the new H-Series products (which by this time had launched) should be included. [1338] at 2.

Motorola proposed a broad definition of “Covered Products” that included catchall language and specifically listed the H-Series in the list of products identified by product number:

“Covered Products” means the Hytera products that Motorola specifically identified in its submission. *See* Dkt. 1118-3 (Motorola’s list of “Accused Products”), appended hereto as Appendix A, which includes for the avoidance of doubt, any product based in whole or in part, on or from or incorporating any of the Motorola Trade Secret Information or Motorola Copyrighted Works (or any portion thereof) in any manner whatsoever, as defined in Appendix A to this Agreement.

[1309] at 3; *see id.* at 19–21 (version of Appendix A filed February 24, 2022, including catchall language and including H-Series in the list of products identified by product number, *e.g.*, “HM7X”).

Motorola argued that in the absence of its catchall language, Hytera could simply relabel or renumber the radios that were adjudicated at trial and avoid the royalty order’s payment obligation. [1318] at 3. Motorola also argued that the recently released H-Series products should be included because Hytera had produced no evidence that those products did not use Motorola’s trade secrets and copyrights. *Id.*

Hytera proposed a narrower definition of “Covered Products” that was limited to the products that Motorola had identified as accused (*i.e.*, adjudicated) at trial and thus did not expressly include the H-Series:

“Covered Products” means the Hytera products that Motorola specifically identified in its submission. *See* Dkt. 1118-3 (Motorola’s list of “Accused Products”).

[1309] at 3. Hytera argued that (1) Federal Rule of Civil Procedure 65(d) required that the order be limited to adjudicated products, (2) it had a right to a jury trial on new products, and (3) it should not have to test its alleged good faith redesign through contempt proceedings. [1315] at 8–11.

On April 12, 2022, Judge Norgle issued a twenty-four-page order deciding the remaining royalty disputes. [1338]. As to the “Covered Products,” Judge Norgle

rejected Motorola's argument that "Hytera's proposed definition is too limited because it would enable Hytera to flout its royalty obligations by relabeling or renumbering its products":

Hytera makes no argument that it can avoid its royalty obligations by relabeling or renumbering its products. Indeed, the royalty applies to the products specifically identified by Motorola. Motorola identified those products by product number, but Hytera cannot avoid its royalty obligations merely by renumbering its products: if a renumbered product is identical to a product for which Hytera owes royalties, Hytera owes royalties all the same.

[1338] at 7.

As to the H-Series, Judge Norgle adhered to his prior (December 14, 2021) ruling that "Covered Products" as defined in the royalty order would be the products accused (*i.e.*, adjudicated) at trial. The H-Series had not existed at trial. Judge Norgle therefore rejected Motorola's argument that the H-Series should be added to the list of adjudicated products:

The Court ordered that Hytera owes royalties on the Hytera products Motorola identified as having been adjudicated in this case to incorporate Motorola's trade secrets and copyrights. Motorola makes no argument that Hytera's H-Series products have been adjudicated as incorporating Motorola's trade secrets or copyrights, and Motorola's attempt to shift the burden to Hytera to disprove that its products that have not been adjudicated in this case incorporate Motorola's trade secrets or copyrights is improper. The Court adopts Hytera's position on the definition of "Covered Products."

Id. at 8.

C. Judge Norgle Enters the Final Royalty Order

Following Judge Norgle's decision, the parties jointly submitted a proposed royalty order reflecting the additional rulings on their disputes. [1339]. On July 5, 2022, Judge Norgle entered the final royalty order. [1349].

The royalty order includes the following definition of "Covered Products":

"Covered Products" means the Hytera products that Motorola specifically identified in its submission. *See* Dkt. 1118-3 (Motorola's list of "Accused Products").

[1349] § 1.2. As noted above, Motorola's "submission"—that is, Motorola's January 28, 2021 list of products accused at trial, identified by product number, [1118-3]

(Appendix A)—did not list the H-Series by product number; the H-Series did not exist at the time of trial.

The royalty order provides for a royalty-bearing license: “Subject to the terms and conditions of this Order, beginning on July 1, 2019, Hytera and its Affiliates shall have a limited, non-transferable, non-exclusive, non-sublicensable, royalty-bearing, license solely under Motorola’s trade secrets and copyrights at issue in the above-captioned action, solely for Hytera and its Affiliates for Covered Equipment Transactions anywhere in the world, and conditioned on payment in accordance with the provisions contained herein.” [1349] § 2.1.

The order defines “Covered Equipment Transaction” as “the (i) manufacture of the Covered Products, (ii) use for purposes of evaluation, testing, and development in connection with the foregoing sub-section (i), or (iii) sale, lease, distribution or delivery (each item in this subsection (iii), a ‘Sale’), in each case with respect to (i) – (iii), of a Covered Product.” [1349] § 1.5.

The order sets the royalty rate for Covered Equipment Transactions: “Hytera shall make payments to Motorola Solutions in the amount of \$80.32 USD per terminal (portable or mobile) and \$378.16 per repeater (subject to any revised rates ruled otherwise after the exhaustion of all pending appellate proceedings) on a particular unit’s first Sale to an unaffiliated third party.” [1349] § 4.1.

Finally—consistent with Judge Norgle’s previous ruling that Hytera “must keep Motorola’s trade secrets and copyrights confidential” and “may only use them in conjunction with the products subject to the royalty,” [1289] at 40—the order includes a “Confidentiality Provision” that states in relevant part:

Hytera must keep Motorola’s trade secrets and copyrights at issue in the above-captioned action confidential and not publish, disseminate, or compromise the confidential nature of or disclose any portion of same.

[1349] § 3.1.

D. Judge Norgle’s Rulings Frequently Highlight the Breadth of Hytera’s Misappropriation

Throughout the posttrial litigation, the parties filed briefs and Judge Norgle issued rulings on other posttrial issues besides the royalty order. Judge Norgle’s rulings on these issues—several of which were decided while the H-Series redesign was underway and before the H-Series’s October 2021 launch and public disclosure—consistently reiterated that the jury awarded the full damages for which Motorola was permitted to argue, that the evidence was overwhelming, and that Hytera’s misappropriation was willful, malicious, and egregious.

For example, Judge Norgle issued a thirty-two page order on October 19, 2020 denying Hytera's Rule 50(b) motion for judgment as a matter of law and Rule 59 motion for a new trial and/or remittitur. [1088]. This order was issued while the H-Series redesign was ongoing and around a year before its launch. The order described the jury's verdict as "supported by overwhelming evidence that was submitted at trial—evidence . . . which was robustly and meticulously challenged by skilled counsel for Hytera at each and every turn." [1088] at 2.

On January 8, 2021, also during the H-Series redesign and months before its launch, Judge Norgle issued thirty-nine pages of findings of fact and conclusions of law for purposes of calculating damages.⁶ This order walked through the evidence presented at trial. [1100]. Among other things, Judge Norgle found:

- Motorola proved through five fact witnesses and numerous experts across more than twenty-five hours of testimony that Hytera stole twenty-one trade secrets at trial, constituting the "playbook" by which Motorola engineers built its radios, *id.* at 3;
- Hytera's CEO recognized Hytera's need to develop a DMR product quickly, *id.* at 5;
- Hytera entered the DMR market in 2010, making Hytera second to the DMR market behind Motorola, *id.*;
- Hytera saved \$73.6 million in research and development costs by misappropriating Motorola's trade secrets, *id.* at 9;
- Hytera's attempts to dispute Motorola's evidence regarding the amount of time that it took to develop the misappropriated trade secrets were not credible, *id.* at 12;
- Hytera began selling DMR radios that contained or were created with the misappropriated trade secrets in 2010, sold the accused products for nearly ten years, continued to sell the accused products after being sued, and made \$734.1 million in revenue on those products, *id.* at 15, 29;
- Motorola's expert explained that Hytera used the substantial amount of research and development savings from its misappropriation to try to "leapfrog" Motorola in the market by developing additional DMR features to differentiate its products and used revenues from sales of the accused products to make corporate acquisitions to enhance its competitive position, *id.* at 19;
- Hytera still had not, "to this day," developed a comparable DMR product without use of Motorola's trade secrets and source code, *id.* at 9;

⁶ While Judge Norgle denied Hytera's Rule 50(b) and 59 motions, he agreed "with Hytera that unjust enrichment damages presented an equitable issue for the court. That meant the jury's findings on those amounts were advisory and the district court was required to state its findings of fact and conclusions of law under Federal Rule of Civil Procedure 52(a)(1)." *Motorola Sols.*, 108 F.4th at 471; [1088].

- Almost four years after this case was filed, and nearly a year after the jury verdict, Hytera still had not released a DMR radio comparable to Motorola's that was not designed with the misappropriated trade secrets, *id.* at 21;
- "Hytera's experts attempted to argue that the Misappropriated Trade Secrets were not important to Hytera's development of DMR radios, and that without the misappropriation, Hytera could have released its radios in six months, but those assertions were not credible," *id.* at 21–22.

In March 10, 2021, Judge Norgle issued an attorney's fees order while the H-Series redesign was ongoing and months before its launch. The order—which granted Motorola reasonable attorney's fees but instructed the parties to comply with a local rule as to the amount of fees—underlined the egregiousness of Hytera's misappropriation:

Having found that Motorola prevailed on its trade secrets claims, the Court further finds that Hytera's misappropriation was willful and malicious. As Motorola notes in its reply, Hytera makes no effort to explain why its misappropriation of Motorola's trade secrets was not willful or malicious. The record in this case repeatedly expounds on Hytera's conduct that makes clear Hytera's misappropriation was willful and malicious so the Court need not do so again here. Motorola's motion provides a sufficient summary of the evidence. Dkt. 977 at 2. *Briefly, Hytera stole the entirety of Motorola's highly confidential DMR source code and thousands of confidential documents, which Hytera used to develop competing products.* Hytera then concealed its theft from Motorola, including by rewriting code to look different from Motorola's and by taking extensive measures to destroy evidence or to ensure that no such evidence existed.

....

. . . [T]he Court agrees with Motorola that many of Hytera's litigating positions were objectively unreasonable. Hytera ultimately conceded at trial to copying Motorola's copyrighted source code and the strength of Motorola's case was confirmed by the jury's decisive verdict.

[1156] at 1–4 (emphasis added).

IV. Appeal

In August 2022, Hytera appealed—and Motorola cross-appealed—numerous district court orders, including the royalty order, to the Seventh Circuit. *See* [1356]; [1364].

The Seventh Circuit issued its opinion on July 2, 2024. It explained:

The most startling fact about these appeals is that Hytera's liability is not at issue. It concedes that it engaged in the blatant theft of trade

secrets and copying of proprietary computer code. Instead, Hytera raises several challenges only to the damages awards under the Copyright Act and the DTSA.

Motorola Sols., 108 F.4th at 468. As to copyright damages, the Seventh Circuit “remand[ed] for the district court to recalculate copyright damages, which will need to be reduced substantially from the district court’s original award of \$136.3 million.” *Id.* As to the DTSA damages, the Seventh Circuit “affirm[ed] the district court’s award of \$135.8 million in compensatory damages and \$271.6 million in punitive damages.” *Id.* at 468–69. On Motorola’s cross-appeal, the Seventh Circuit remanded for reconsideration of permanent injunctive relief. *Id.* at 469. The Seventh Circuit reversed in part the district court’s judgment (“with respect to the availability of copyright damages for Hytera’s extraterritorial sales, Hytera’s entitlement to prove apportionment of its copyright damages under a proximate-cause theory, and the denial of Motorola’s Rule 60(b) motion for reconsideration of the denial of injunctive relief”) and remanded the case for further proceedings on those issues consistent with the Seventh Circuit’s opinion. *Id.* at 505. The Seventh Circuit affirmed the district court’s judgment in all other respects. *Id.* at 506.

V. Previous Royalty Payment Contempt Proceedings

Earlier, in the summer of 2022, a dispute arose over Hytera’s failure to comply with a provision of the royalty order requiring Hytera to deposit approximately \$49 million in royalties into an escrow account on July 31, 2022. [1352] at 1–2. In August 2022, Hytera filed a motion to modify or stay the royalty order, [1351], and Motorola filed a motion that Hytera be held in contempt, [1359].

On October 6, 2022, the case was reassigned to this judge on Judge Norgle’s retirement. [1375] at 7. In late 2022, after the reassignment, the parties renewed and briefed the motions regarding the \$49 million unpaid royalties. *E.g.*, [1381]; [1384].

On July 11, 2023, this court denied Hytera’s motion to modify or stay the royalty order. [1428]; [1429] at 1. The court held Motorola’s motion in abeyance and ordered Hytera to “immediately comply with the royalty order.” [1429] at 1. The court scheduled a contempt hearing but explained that it would deny Motorola’s motion and cancel the hearing if Hytera complied with the royalty order. *Id.*

When Hytera failed to comply (and after holding the hearing), on August 26, 2023, the court granted Motorola’s motion and held Hytera in civil contempt. [1460]. The court concluded that, to coerce compliance with the royalty order, the appropriate course would be to enjoin Hytera from selling any products containing two-way radio technology anywhere in the world until Hytera complied with its obligations under the royalty order. [1461] at 19.

However, by early September 2023, Hytera made the royalty payment into escrow, thereby purging the civil contempt. Thus, the court did not enter the

injunction. [1470]; *see also* [1474] (Sept. 25, 2023 minute entry summarizing contempt-related filings, proceedings, and orders in July, August, and September 2023).

VI. H-Series Contempt Proceedings

On February 20, 2024, Motorola moved to open contempt proceedings against Hytera regarding the H-Series. *See* [1482]. Motorola argued that through discovery taken in its parallel patent infringement case against Hytera, it had learned that “the H-Series is not a redesign at all, but continues to use the trade secrets and copyrights Hytera stole from Motorola.” [1482-1] at 8.

Motorola further explained that it had discovered that Hytera had been—for two years prior—pursuing a parallel declaratory judgment action in China related to the H-Series. *Id.* at 8–9. In June 2022—that is, before the final royalty order had been entered (on July 5, 2022)—Hytera had filed an action in Shenzhen, China seeking a determination that the H-Series did not use Motorola’s trade secrets or copyrights. *See* [1482-6] (statement of claim). “Hytera did not inform Judge Norgle or Motorola that it had filed the case in Shenzhen. More than a year after Hytera filed the case, in November 2023, the Shenzhen court served Motorola with the case.” [1503] at 6.

On March 25, 2024, the court granted Motorola’s motion and opened contempt proceedings regarding the H-Series over Hytera’s objection. *See* [1503].⁷ The court also issued an antisuit injunction ordering Hytera to refrain from pursuing the Shenzhen action until these contempt proceedings concluded. [1504]. Specifically, the order required Hytera to “refrain from further pursuing or enforcing in any way (including but not limited to any request, claim, application, or motion) the litigation it filed in the Shenzhen Intermediate People’s Court in China in June 2022 seeking a declaratory judgment that the H-Series products do not infringe Motorola’s trade secrets and copyrights.” *Id.* at 2. A follow-up March 29, 2024 minute entry required Hytera to “*withdraw* the action . . . , including withdrawing any productions in that case.” [1508] (emphasis added). The antisuit injunction resulted in separate contempt proceedings, which are the subject of a separate opinion which will be entered contemporaneously with this one.

As to the H-Series contempt proceedings, opened in the court’s March 25, 2024 order, over the next few months, the parties engaged in prehearing fact and expert discovery on the H-Series, including production of the H-Series “launch” source code and several older versions. On July 29, 2024, Motorola formally moved to hold Hytera in contempt for failing to pay royalties on sales of the H-Series products. [1678]. The

⁷ The circumstances giving rise to these contempt proceedings, as well as the antisuit injunction, are set forth in the order opening contempt proceedings. *See* [1503].

parties filed voluminous briefing and expert reports on the contempt motion. They presented evidence and testimony in a week-long contempt hearing in August 2024.

FINDINGS OF FACT

I. The Scope of the Adjudicated Trade Secrets

At trial, Motorola presented a list of twenty-one distinct trade secrets that it argued Hytera misappropriated. *See* [1678-1]. Eighteen concerned the software for Motorola’s DMR radios, *see* Trial Tr.⁸ 587–641, 704–27, 736–48, 864–94; the remaining three concerned hardware, *see id.* 748–55, testing, *see id.* 727–36, and Motorola’s “repeater,” a device that receives a signal from one radio and retransmits it to other devices in a geographic area, *see id.* 994–1015. The software trade secrets covered a number of overlapping features of Motorola’s products at varying levels of abstraction, ranging from Motorola’s entire body of source code, to the modular “architecture” providing the structure for that code, to the specific designs and implementations of the various “modules” within that architecture.

Motorola principally argued that these trade secrets were “compilation trade secrets.” A compilation trade secret is a “combination of characteristics and components, each of which, by itself, is in the public domain, but the unified process, design and operation of which, in unique combination, affords a competitive advantage.” *Minn. Mining & Mfg. Co. v. Pribyl*, 259 F.3d 587, 595–96 (7th Cir. 2001). In other words, the protections were limited to Motorola’s *specific implementations* of more general concepts or technologies. *E.g.*, Trial Tr. 706:2–13, 716:10–13, 739:9–11, 750:8–11 (testimony of Motorola witness explaining that the trade secrets were defined based on Motorola’s specific implementations); [1088] at 8 (Judge Norgle’s order recognizing that “materials which would fall within the public domain” may still be protectable as trade secrets if “collected and set out as a unified process” (quoting *Minn. Mining & Mfg.*, 259 F.3d at 595–96)).

The jury’s February 14, 2020 general verdict found that Motorola had proven it “possessed one or more trade secret(s) that was/were misappropriated by Hytera” and that “Hytera infringed [its] copyright(s).” [898] at 2–3. The jury did not specifically find whether or which trade secrets appeared in Hytera’s products. *Id.* As Judge Norgle explained, however, the jury’s verdict made “clear that the jury in fact found *all trade secrets misappropriated and all copyrights infringed.*” [1097] at 3 (emphasis added).

⁸ The trial transcripts are located at [782]–[805] and [919]–[934].

II. The Redesign Process

A. Overview

Hytera began its H-Series redesign in the spring of 2020, shortly after the jury's verdict. McDonald Decl. ¶¶ 8–9. At the time, the redesign was not public; neither the redesign nor the existence of the H-Series became public until the October 2021 H-Series launch. *See* Hr'g Tr. 10:20–11:20.

Andy Grimmett, a software engineer and Secretary of the DMR Association who had submitted expert reports and testified on Hytera's behalf at trial, [1695] (Grimmett Decl.) ¶¶ 4–7, and Cameron McDonald, an outside consultant, McDonald Decl. ¶ 7, led the H-Series redesign, *see id.* ¶ 9. Unlike Grimmett, McDonald had no previous involvement in the litigation. Besides Grimmett and McDonald, the redesign process also involved 100 Hytera engineers.

While Hytera publicly claimed during the H-Series's U.S. launch that the H-Series was redesigned “from the ground up” “in a clean room,” *see* [1763] at 11, Hytera did not “start from scratch” in its redesign, [1680-7] (McDonald Dep.) 41:1–18. This was a calculated decision by Hytera. Hytera's original DMR prototype, developed in 2007 by then-Hytera employee Professor Sun Pengfei, *see* Trial Tr. 2420:24–2421:6; Hr'g Tr. 943:6–19, relied on completely different technology and was over twenty years old by the time of the H-Series redesign. By 2020 the original prototype had been superseded by subsequent technology, so Grimmett believed that it was an “inappropriate starting point” for the redesign. Hr'g Tr. 968:3–6.

Hytera instead embarked on what it called a “targeted redesign.” *Id.* 1164:12–13. The H-Series redesign was based on an unreleased “[m]ainline” codebase called the “Gen 2,” which Hytera had developed as a “possible starting point for a redesigned product line.” McDonald Decl. ¶ 10; [1680-21] (██████ Dep.) 63:8–67:12. Most of the older Hytera products used the C55 chip, while “Gen 2” products were designed to run on a new C67 chip. McDonald Decl. ¶ 12. However, the PDC760—one of the Covered Products adjudicated at trial—also used the C67 chip. [1118-3] (list of Covered Products); [1680-8] (Grimmett Dep.) 71:19–72:18. Both McDonald and Motorola's expert Dr. Sundeep Rangan characterized the version of Gen 2 used in the H-Series as sharing a “common ancestor” with the PDC760's code. McDonald Decl. ¶ 16; Hr'g Tr. (Rangan) 155:4–11. And Motorola's expert Dr. Steven Wicker opined that “there is very little difference” between the functionality of the C67 chip and the C55 chip. Hr'g Tr. (Wicker) 374:16–21.

The Gen 2 codebase was not copied wholesale from Motorola's code. It incorporated a number of features designed by Hytera, both pre- and post-misappropriation. For example, it included new code to implement the C67 chip's new “tier III DMR” functionality, an engineering feature that the old C55 chip did not possess. Hr'g Tr. (Wicker) 570:1–11 (acknowledging that the Gen 2 codebase was

“light years away from” the original C55 codebase); *id.* (Grimmett) 874:3–8, 885:1–888:5 (“[T]here is a large body of design IP software that Hytera had that was never accused by Motorola. So by starting from scratch, we would have had to throw all of that away. It was a bit like throwing the baby out with the bath water. You know, there was a lot of value to what was already there.”). But it is undisputed that Motorola’s trade secrets influenced the Gen 2 codebase on some level. *See id.* (Grimmett) 959:3–9, 961:9–12 (acknowledging that Gen 2 code was “not clean” and that Hytera started with code that was “influenced by Motorola’s trade secrets”).

Hytera’s overall process sought to remove specific portions of the existing Gen 2 codebase that Grimmett and McDonald deemed to contain Motorola’s intellectual property. Grimmett Decl. ¶¶ 9–15; McDonald Decl. ¶¶ 17–22. Hytera reasoned that the claimed trade secrets did not encompass high-level design ideas, but were “confined to the specific implementation” of these ideas in Motorola’s radios—largely as described by Motorola’s trial expert, Dr. Wicker, in his testimony and reports. Grimmett Dep. 166:6–168:3, 171:10–20; Grimmett Decl. ¶¶ 10–12.

Thus, the process began by Hytera’s experts Grimmett and McDonald reviewing Motorola’s pretrial expert reports and the trial records to determine what Motorola did and did not claim as protected. Hr’g Tr. (Grimmett) 947:20–948:2, 955:16–956:2.

B. Hytera’s Redesign Teams

Hytera characterized its redesign as involving a “clean room” process. “A ‘clean room’ is a technique used in the software industry to prevent the direct copying of a competitor’s code during the development of a competing product. The procedure usually consists of two teams of developers, one team disassembles the code and describes its functional aspects, while the other team takes the descriptions of the functional aspects and writes the competing product’s code.” *DSC Commc’ns Corp. v. DGI Techs., Inc.*, 898 F. Supp. 1183, 1189 n.3 (N.D. Tex. 1995), *aff’d*, 81 F.3d 597 (5th Cir. 1996). Broadly, Hytera’s redesign involved four official “teams” and an informal fifth “team.” [1696-1] (Cleanroom Protocol) at 9–14.

- **Coordination/External Review Team.** Led by Grimmett and McDonald, *see* McDonald Decl. ¶ 38, this team made recommendations for the redesign, maintained information flow between teams, and was tasked with reviewing all code to ensure that it did not contain Motorola’s confidential information. Cleanroom Protocol at 11.
- **Cleanup Team.** This informal “team” deleted and modified contaminated modules in the Gen 2 DMR code. McDonald Decl. ¶ 39–40; [1707] (██████ Decl.) ¶ 15. The team was not listed as a separate team in Hytera’s formal “Cleanroom Protocol” document, but it was responsible for (1) carrying out the External Review team’s directions in deleting sections of the “old code” and

(2) reintegrating open-source substitutes into the code. [REDACTED] Decl. ¶¶ 15–21. Several Cleanup Team members, such as [REDACTED], were “Legacy DMR” engineers with prior experience with Hytera’s “contaminated” code. Hr’g Tr. 306:7–8; [1763-1] at 8.35–8.40; [1681-23] at 4 (Hytera Supplemental Responses to Interrogatories) (listing [REDACTED] as “[k]nowledgeable [a]bout [the] [r]esearch, [c]onception, [d]esign, [d]evelopment, and [e]ngineering” of adjudicated product MD65X).

- **Specification Team.** This team drafted high-level requirements for new modules to pass along to the Development Team. The Specification Team also included Legacy DMR engineers who had exposure to Motorola’s trade secrets but were directed to “not rely on Motorola confidential information they may recall” during the redesign process. Cleanroom Protocol at 10–11; [REDACTED] Decl. ¶ 15.
- **Development Team.** This team received the high-level requirements from the Specification Team and developed new modules in accordance with their specifications. McDonald Decl. ¶ 42. This team, unlike the others, operated in a closed environment without access to any of the Legacy DMR engineers. Cleanroom Protocol at 14.
- **Integration/Testing Team.** This team took the code from the Cleanup Team and Development Team and assembled it into a complete codebase. McDonald Decl. ¶ 43. Legacy DMR engineers were on this team as well, but not those who had “extensive exposure to the aspects of Hytera’s DMR code” adjudicated at trial. Cleanroom Protocol at 46.

The Cleanroom Protocol also prescribed a number of firewalls between the teams to avoid cross-contamination. *See id.* at 14–19. For instance, members of the Development Team were restricted in their ability to communicate with other Hytera employees and work on other projects. *Id.* at 32–34.

The redesign process proceeded in three steps: First, Grimmatt and McDonald “reviewed each module on a case-by-case basis” to “determine if that implementation was somehow an issue with respect to all the discussion of that module at trial.” McDonald Dep. 58:12–13, 58:22–59:2; *see* McDonald Decl. ¶ 27. If they determined that an aspect of the code “warranted redesign,” they would (1) recommend that it be removed, (2) if that was not possible, find an open source, “off-the-shelf” implementation from a third party, or (3) if none was available, recommend that Hytera design a replacement from scratch via a clean room process. McDonald Decl. ¶¶ 26–31; [REDACTED] Decl. ¶ 14; Grimmatt Dep. 123:19–24:11; Hr’g Tr. (McDonald) 692:3–10.

At step two, Hytera engineers would implement Grimmatt and McDonald’s recommendations. McDonald Dep. 79:4–7. The Cleanup Team would use the

recommendations to remove accused functionality from the Gen 2 codebase. McDonald Decl. ¶¶ 39–40; [REDACTED] Decl. ¶¶ 17–20. The code they used was housed on a network called the “156 server.” [REDACTED] Decl. ¶ 21. When a public or third-party solution was identified, the Cleanup Team would swap it in for the excised code. McDonald Decl. ¶ 39. For the pieces that remained, Grimmatt and McDonald would work with the Specification Team to draft high-level specifications to send to the Development Team. *Id.* ¶¶ 31, 41. The Development Team would then implement these specifications via new code, working in an isolated clean room environment. *Id.* ¶ 42. The Integration Team would then combine the Development Team’s new code and the Cleanup Team’s existing code into a complete codebase. If there were any bugs or recommended additions by the Integration Team, changes could only be made by written request to Grimmatt and McDonald. *Id.* ¶¶ 43–44.

At the final step, Grimmatt and McDonald “reviewed each new iteration of code” from each of the teams throughout the redesign process to confirm that Grimmatt and McDonald’s proposals were being successfully implemented. Grimmatt Decl. ¶ 33; *see* McDonald Decl. ¶ 45–47; Hr’g Tr. (McDonald) 712:24–713:3.

C. Exposure to Motorola’s Trade Secrets

The Cleanup Team, Specification Team, and Integration/Testing Team all included Hytera personnel who had worked on products incorporating Motorola’s code. For example, [REDACTED], a Specification Team member responsible for writing many of the specifications to be implemented by the Development Team, [1681-24] ([REDACTED] Dep.) 150:3–153:8, had significant past experience with Hytera products that used the misappropriated intellectual property. *See* [1738-12] ([REDACTED] past work on “CPA Study Notes” concerning the software architecture of the accused products). [REDACTED], a Cleanup Team member, had previously developed software for the user interface design of Hytera’s infringing products. [1680-28] ([REDACTED] Dep.) 31:10–32:12. He also led trainings on the Radio Application Framework, a component of Hytera’s software architecture on the accused products. Hr’g Tr. (Rangan) 165:13–167:5, 178:18. Last, [REDACTED], a member of the Integration Team, had prior experience developing protocol stack DMR software for Hytera, *id.* 191:15–192:9, despite the Cleanroom Protocol’s guidance that members of the team “should *not* have had extensive exposure to the aspects of Hytera’s DMR code” adjudicated at trial. Cleanroom Protocol at 46. The only team that operated within a strict clean room environment was the Development Team, which only wrote code if Hytera could not find a third-party solution for essential portions of the Gen 2 code that, in Hytera’s view, “warranted redesign.” McDonald Decl. ¶¶ 26–31.

The “dirty” personnel also retained access to the “old code” and “contaminated” documents throughout the redesign process. The initial version of the Gen 2 source code, which incorporated Motorola’s trade secrets, remained on Hytera’s 156 server throughout the redesign, along with documents reflecting the influence of Motorola’s trade secrets. [1681-25] (Antunez Rep.) ¶¶ 43–44, 49; [1738-22] ([REDACTED] Dep.) 37:14–38:7.

Multiple members of the Cleanup, Specification, and Integration teams had access to this server. [1738-6] (Rangan Rep.) ¶ 172 & n.380 (citing Antunez Rep., tpls. 25, 33, 41).⁹

In the beginning of the redesign process, Hytera outlined the high-level proposals in a spreadsheet known as the “Scope Map.” Hr’g Tr. (Wicker) 393:17–23. The Scope Map was last modified on March 26, 2020, roughly a month after the jury handed down its verdict and early in the redesign process. *Id.* (Rangan) 277:10–20. The author is unknown, but on its face the Scope Map appears to outline the changes Hytera planned to make to its code for the H-Series redesign, at least in the early stages of the redesign process. *See* [1680-6] (Scope Map) at 13–15 (discussing different “modification” plans for different models and recommending “further redesign[]” and “independent[] review[]” for several modules using Motorola trade secrets).¹⁰ For at least eight of the features listed—including trade secrets like Motorola’s DMR protocol stack and DSP Framework accused at trial—the document’s “rewrite type” column states: “None. Motorola has not made any bona fide accusations that appear to benefit from its materials beyond other modules already discussed.” Scope Map at 17–19.

While the H-Series officially launched in late 2021, the redesign teams continued to update the codebase through at least 2023. [1703] (Cooklev Rep.) ¶ 182.

D. The Finished Product

Hytera’s redesign process resulted in products with an extremely high degree of functional and practical similarity to the products adjudicated at trial. To be sure, there are differences between the H-Series products and the adjudicated products. For example, one major functionality, “VOX” (voice-operated exchange), for which Motorola claimed trade-secret protections, was initially absent at the H-Series’s launch, though Hytera later added it back using code written by the Development Team. *See* Cooklev Rep. ¶¶ 250–55. And Hytera presented evidence showing that, from an initial codebase of 1.3 million total lines of code in the Gen 2 codebase, the

⁹ Most of Motorola’s evidence on this front comes from the report of its expert, Dr. Andrew Antunez. Hytera challenged Dr. Antunez’s methodology, noting he was not previously familiar with the accused trade secrets and simply measured “access” in terms of “hits” on a list of search terms that Motorola had deemed to be “related” to its trade secrets. [1692-27] (Antunez Dep.) 71:19–72:1, 73:14–20, 74:15–21. While Motorola has since singled out certain specific documents that it contends were accessed, the full extent of the “dirty” personnel’s access to the contaminated server materials remains uncertain.

¹⁰ Hytera does not contest the authenticity of the document. Instead, it contends that the document is from early in the redesign process and does not reflect how the redesign process actually unfolded. Hr’g Tr. (Wicker) 607:2–608:9; *see id.* 1116:7–25 (Hytera’s closing argument contending that the Scope Map was from “within the first week of the redesign process, and [was] clearly at the very beginning of an 18-month-long endeavor”).

H-Series redesign removed more than 500,000 lines of code and added more than 300,000. McDonald Decl. ¶¶ 89–92. Hytera also claims that two modules in Motorola’s DMR “middleware” (known as ROSAL/HOSI and RaPIS/HAPI)—responsible for providing common services used by other layers and facilitating communication between lower-level and higher-level code—were completely removed. Cooklev Rep. ¶¶ 186–87, 198–214. Hytera purports to have replaced them with a single module, the “Terminal Platform Layer” (TPL), which was designed in its entirety in the clean room. *Id.* ¶¶ 198, 212. And according to Hytera, other features identified as trade secrets, including Motorola’s unified “connectivity” layer, were removed entirely and never replaced. *Id.* ¶ 471.

But Hytera left many trade secrets untouched. For example, the Scope Map indicates that Hytera elected not to remove eight trade secrets—the “Protocol Stack,” “DSP Framework,” “DSP Code,” “Mobile Code,” “Repeater,” “Hardware,” “All Code,” and “Architecture”—apparently on the theory that Motorola had not made any accusations that these modules benefited from its trade secrets. *See* Scope Map at 18–19. This conclusion appears to have stemmed, at least in part, from Grimmiett and McDonald’s analysis of Motorola’s trade secrets. *See* Hr’g Tr. (Grimmiett) 947:24–948:2 (agreeing that Grimmiett and McDonald “went in to each trade secret, and . . . personally made a decision of . . . what parts were public and what parts were Motorola’s secret sauce”). But Grimmiett’s analysis at trial had concluded that *none* of the information Motorola claimed at trial was, in fact, a trade secret. *See* Trial Tr. (Grimmiett) 4440:12–23. That conclusion was rejected by the jury and by Judge Norgle. *See* [1097] at 3 (“[I]t is therefore clear that the jury in fact found all trade secrets misappropriated . . .”). And while Grimmiett testified at the contempt hearing that his analysis during the redesign process was “completely divorced” from the views he expressed at trial, he never explained his revised analysis in writing or in his testimony, meaning that the only way for the court to assess his analysis is by reference to the recommendations he and McDonald made. *See* Hr’g Tr. (Grimmiett) 880:10–17, 949:5–21.

Even when Grimmiett and McDonald decided that a change was required, Hytera did not always follow through. For example, at trial, Motorola identified confidential documents reflecting its testing procedures, which are trade secrets. Wicker Rep. ¶¶ 734–38; Trial Tr. 1444:1–7. Motorola accused, among other materials, a testing document labeled PTX-0144 at trial. PTX-0144 is the “DMR radio tuning and testing plan,” a “[s]preadsheet listing tests for pre-tuning, tuning and testing.” [1695-4] (Hytera Test Document Proposal) at 6; *see also* Hr’g Tr. (Grimmiett) 1007:7–10 (document sets the “test parameters” for DMR products). Hytera was aware of the PTX-0144 testing document and recommended that its influence and reference to it be removed from the files used for the H-Series redesign. Hr’g Tr. (Grimmiett) 1005:10–21 (agreeing that the PTX-0144 spreadsheet had been accused at trial and that he recommended it be “quarantined and removed”); Hytera Test Document Proposal at 6 (“Hytera need[ed] to ensure that no part of their testing methodology, processes, or documentation are in any way derived from or influenced by anything

contained within” PTX-0144.). But a comparison of PTX-0144 and HS_VOL_01581638, an H-Series redesign document, reveals several similarities in the recommended testing parameters. *See* [1763-2] at 9.60–.61; Hr’g Tr. (Wicker) 404:6–405:13. Even Grimmett admitted that it appears there is information in HS_VOL_01581638 that the teams were supposed to remove but did not. Hr’g Tr. (Grimmett) 1011:21–1012:2.

When Hytera did make changes, it did so largely by replacing discrete modules or portions of modules with functional equivalents. Dr. Wicker pointed out many similarities in the functions used in the adjudicated code and the H-Series code. *See* [1680-2] (Wicker Rep.) ¶¶ 821–23, 960–63, 506–12, 584–615, apps. C & D. Dr. Wicker also noted similarities in the documents used to develop the H-Series and the adjudicated product specifications. *E.g., id.* ¶¶ 782–87, 798–805, 825–29, 837–42. According to Dr. Wicker, while the code itself changed, the underlying functionality did not.

For example, Hytera claims that it successfully redesigned its modules embodying the “audio and signal processing” trade secrets because Hytera removed the code “library” Dr. Wicker had identified at trial—a library called “[REDACTED].” Hr’g Tr. (Hytera closing) 1138:1–16. Because the Gen 2 C67 codebase did not use [REDACTED] and instead implemented “equivalent functions” that had been separately designed, the redesign team determined that nothing further was necessary. Hr’g Tr. (Grimmett) 898:5–910:18, 993:2–22; [1680-11] at 5. But Dr. Wicker credibly opined that the replacement of these lines of code with functional equivalents did not change the modules’ reliance on Motorola’s trade secrets. Wicker Rep. ¶¶ 821–23, 835–36. In many instances, Hytera made minor edits to the code that did nothing to alter the modules’ functionality. For example, Hytera may have cut the offending ROSAL/HOSI and RaPIS/HAPI modules from the Gen 2 codebase, but its protocol stack, or the layered structure of the software components, Hr’g Tr. (Wicker) 390:4–7; Wicker Rep. ¶ 127, remained the same. At trial, Dr. Wicker presented evidence that Hytera misappropriated source code reflecting Motorola’s implementation of its protocol stack. Trial Tr. 1414:20–1415:17. Hytera’s redesign involved removing offending portions of the modules contained in the protocol stack. Hr’g Tr. (Grimmett) 977:8–11 (Hytera modified the protocol stack by “eliminating any references to other accused modules”); *see id.* (Wicker) 394:8–16; [1763-2] at 9.47 (Hytera determined that the “protocol stack could be substantially changed as a result of removing those other accused modules”); McDonald Dep. 133:15–22 (explaining that there was no specification provided to the clean room for development of code unique to the protocol stack because “it wasn’t necessary to re-implement the entire protocol stack based on what the analysis was of the accusations at trial”). But while Hytera may have taken out certain “portions of the software” and replaced them with third-party solutions, the “overall layering remained the same,” as did the functionality. Hr’g Tr. (Wicker) 394:19–22, 396:2–10; *see* Wicker Rep. ¶¶ 883–84. As another example, Motorola accused Hytera of misappropriating its Extended Control and Management Protocol (XCMP) and connectivity trade secrets.

Wicker Rep. ¶ 530; Trial Tr. 1404:13–1412:1. Hytera’s original misappropriation involved taking the entire XCMF code and changing its name to “HRCF.” Wicker Rep. ¶¶ 530, 867; Trial Tr. 1408:13–1412:1. Hytera claims that it excised the HRCF code and replaced it with a different implementation, even going so far as to remove the connectivity layer altogether. But Dr. Wicker noted that many of these “changes” did nothing to alter the functionality of the code. Hytera appeared to employ a practice called “flattening,” which involves simplifying “complex data structures by converting them into a (flatter), two-dimensional format.” Wicker Rep. ¶¶ 546–48; *see* Hr’g Tr. (Wicker) 448:18–25. In at least one example, the change was as simple as moving code from a “header” into the file itself, which did not alter the functionality. *Id.* 449:3–9. This simplification did not change the underlying functionality—the directions to perform it were just expressed differently. *Id.* 452:4–23, 453:6–16.

Dr. Wicker also identified several instances where Hytera changed other insubstantial aspects of the code—such as the function name or prefix—that did not alter the code’s implementation. *See* Hr’g Tr. (Wicker) 375:6–377:10 (comparing different iterations of a message logging function and noting how changes to the naming conventions and prefixes did not alter the functionality, but merely made the copying “harder to identify”); Wicker Rep. ¶¶ 584–94 (change to the L1 Timer code amounted to mere “find and replace,” finding individual source code elements and replacing them with similarly named elements); *see also id.* apps. C & D (comparing functions of the adjudicated code with the H-Series code). Hytera also excised many lines of code by deleting the code’s “revision history,” which—like many other changes—did nothing to alter its functionality. Hr’g Tr. (Wicker) 424:17–425:15.

As Dr. Wicker explained, changes like these do not reflect an honest effort at a redesign, but rather “an obvious attempt to hide the use of the adjudicated code” by changing inconsequential aspects of it. Wicker Rep. ¶ 549.

DISCUSSION

I. Contempt in Trade Secret Cases

Civil contempt proceedings seek “to secure compliance with a prior court order.” *D. Patrick, Inc. v. Ford Motor Co.*, 8 F.3d 455, 459 (7th Cir. 1993) (citation omitted). It is not an independent cause of action, but “part of the action from which [it] stem[s].” *Id.* (citation and internal quotation marks omitted). “[C]ivil contempt ‘should not be resorted to where there is [a] *fair ground of doubt* as to the wrongfulness of the defendant’s conduct.” *Taggart v. Lorenzen*, 587 U.S. 554, 561 (2019) (emphasis and alteration in original) (quoting *Cal. Artificial Stone Paving Co. v. Molitor*, 113 U.S. 609, 618 (1885)). “This standard reflects the fact that civil contempt is a ‘severe remedy,’ and that principles of ‘basic fairness requir[e] that those enjoined receive explicit notice’ of ‘what conduct is outlawed’ before being held in civil contempt.” *Id.* (first quoting *Cal. Artificial Stone Paving Co.*, 113 U.S. at 618; then quoting *Schmidt v. Lessard*, 414 U.S. 473, 476 (1974) (per curiam)). “To prevail

on a request for a contempt finding, the moving party must establish by clear and convincing evidence that (1) a court order sets forth an unambiguous command; (2) the alleged contemnor violated that command; (3) the violation was significant, meaning the alleged contemnor did not substantially comply with the order; and (4) the alleged contemnor failed to make a reasonable and diligent effort to comply.” *Sec. & Exch. Comm’n v. Hyatt*, 621 F.3d 687, 692 (7th Cir. 2010).

Though these principles apply to contempt proceedings regardless of subject matter, they frequently arise in the intellectual property context, where plaintiffs often raise contempt when they have secured an initial judgment in their favor and the defendant attempts to “redesign” its products to continue selling those products despite the judgment. *See* 2 Melvin F. Jager & Brad Lane, *Trade Secrets Law* § 7:15 (2024). In the patent context, the Federal Circuit has interpreted the general “fair ground of doubt” standard to require that “the party seeking to enforce the injunction must prove both [1] that the newly accused product is not more than colorably different from the product found to infringe and [2] that the newly accused product actually infringes.” *TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869, 882 (Fed. Cir. 2011) (en banc). *TiVo*, of course, is not binding in this case. And it arises not from the trade secret context but from the analogous-but-distinct patent context. Nevertheless, its reasoning is persuasive in several respects.

First, as in *TiVo*, the ultimate question is whether there is a “fair ground of doubt as to the wrongfulness of the defendant’s conduct.” *Taggart*, 587 U.S. at 561 (emphasis omitted) (quoting *Cal. Artificial Stone Paving Co.*, 113 U.S. at 618). As *TiVo* put it, “The primary question on contempt should be whether the newly accused product is so different from the product previously found to infringe that it raises a fair ground of doubt as to the wrongfulness of the defendant’s conduct.” *TiVo*, 646 F.3d at 882 (citation and internal quotation marks omitted). *Second*, *TiVo* notes that the analysis of a redesigned product—what it termed the “not more than colorably different” analysis—must not “focus . . . on differences between randomly chosen features of” the previously-adjudicated product and “the newly accused product.” *Id.* Rather, the comparison must be between “those aspects of the accused product that were . . . a basis for[] the prior finding of infringement, and the modified features of the newly accused product.” *Id.* *Third*, *TiVo* emphasizes that “[t]he significance of the differences between the two products is much dependent on the nature of the products at issue.” *Id.*

Fourth and finally, *TiVo*’s “not more than colorably different” standard reflects a key principle: that an injunction (or, as here, a royalty order) would be rendered ineffective if it did not capture products that are not “meaningfully different” from the expressly-enumerated products. *Bianco v. Globus Med., Inc. (Bianco II)*, No. 2:12-CV-00147-WCB, 2017 WL 3895921, at *2 n.1 (E.D. Tex. Sept. 6, 2017). In the intellectual property context, injunctions and royalty orders often list particular proscribed products (e.g., products adjudicated at trial). But to avoid loopholes and evasion, “[a]n order basing ongoing royalty payments on future sales of” infringing

products “implicitly extends to any products that are not colorably different from those products.” *Bianco v. Globus Med., Inc. (Bianco I)*, 53 F. Supp. 3d 929, 942 (E.D. Tex. 2014) (citations omitted); *see also Bianco II*, 2017 WL 3895921, at *3 (“As for the extension of the remedy to products that were merely colorable imitations of the three adjudicated products, that provision was necessary to avoid evasion of the decree.”). This ensures that a defendant “cannot avoid its royalty obligations simply by renaming its product or making some trivial and immaterial change in the products.” *Bianco I*, 53 F. Supp. 3d at 942.

The parties initially proposed applying *TiVo*’s two-step test for patent cases here. However, while *TiVo*’s reasoning has persuasive force (especially in the respects identified above), the court is not aware of any Seventh Circuit case that has adopted *TiVo*’s two-step analysis in the trade secret context. Accordingly, the court asked the parties to address whether “the *TiVo* test applies to the merits of the contempt inquiry, since this is not a patent case” and directed them to research Seventh Circuit trade secret contempt cases. *See* [1503] at 13–14. Now, the parties dispute the applicable standard. In Motorola’s view—which draws heavily on *Motorola, Inc. v. Computer Displays International, Inc.*, 739 F.2d 1149 (7th Cir. 1984)—a redesigned product remains subject to an injunction or royalty order (and thus contempt is appropriate) if the redesigned product is “substantially like” the adjudicated product. In Motorola’s view (again relying on *Computer Displays*), one way to show substantial likeness is by proving that the products are “substantially derived” from the same trade secrets. *See id.* at 1156 (emphasis omitted). By contrast, Hytera argues that contempt is appropriate only where (1) the accused product is identical on its face to—or not more than colorably different from—a product named in the court’s prior order, (2) the accused product is substantially derived from the same trade secrets, and (3) the contemnor did not make a reasonable and diligent effort to comply with the court’s unambiguous command. In fashioning this standard, Hytera relies on both *TiVo* and *American Can Co. v. Mansukhani (Am. Can II)*, 742 F.2d 314 (7th Cir. 1984).

The Seventh Circuit has never adopted a *TiVo*-style two-step analysis or any other rigid “test” for civil contempt in trade secret cases. Nor is it necessary for the court to settle on a precise formulation here. Rather, the principles apparent in the Seventh Circuit’s decisions in *Computer Displays*, *Am. Can II*, and *Syntex Ophthalmics, Inc. v. Tsuetaki*, 701 F.2d 677 (7th Cir. 1983)—another case interpreting a trade secret injunction—are sufficient to decide this case. Thus, the court will begin by discussing those cases.

Although not a contempt case, *Syntex* involved a similar question: whether an injunction should be interpreted to cover “new” products. The case involved trade secrets that plaintiffs (companies involved in the development of commercially feasible oxygen permeable contact lens material) had derived from a massive development effort at significant cost in both dollars and time. *See Syntex*, 701 F.2d at 680. The district court preliminarily enjoined defendants—a former Syntex

employee and his subsequent employer—from using (1) certain silicone monomers (chemical compounds) used in the production of contact lenses and (2) certain process steps contained in “process sheets.” *Id.* at 679. The preliminary injunction included a procedure for defendants to seek leave to use information they claimed was not barred by the injunction. *Id.* Defendants followed that procedure and filed motions for leave to use, among other things, three “novel” chemical compounds. *Id.* However, the district court ruled “that the three ‘novel’ compounds, while not identical to the monomers proscribed by the preliminary injunction, represented ‘a continued benefit from the misappropriation of Syntex’s trade secrets.’” *Id.* at 680. The district court applied the patent law doctrine of equivalents and denied defendants leave to use the “novel” monomers. *Id.*

Defendants appealed, contending, among other things, that the preliminary injunction was impermissibly vague and indefinite, and that the district court’s subsequent opinion regarding the “new” monomers impermissibly extended the preliminary injunction. *See id.* at 684. The Seventh Circuit affirmed, rejecting both arguments. *Id.* at 684–85.

First, the Seventh Circuit disagreed that the preliminary injunction was vague and indefinite: “Rule 65(d) is satisfied if the injunction fairly informs defendants of the restrained acts relating to plaintiff’s trade secrets, and its terms need not disclose trade secrets.” *Id.* at 684 (internal quotation marks and alterations omitted).

Second, the Seventh Circuit rejected defendants’ argument that the district court’s subsequent opinion interpreting and applying the original injunction to bar the “novel” monomers improperly “extend[ed] the scope of the original preliminary injunction” “[s]ince these chemical compounds were not identified as proscribed in the injunction order.” *Id.* The Seventh Circuit concluded that the district court “properly applied the doctrine of equivalents,” a patent law doctrine that “grants protection to patented inventions from imitations which ‘perform substantially the same function in substantially the same way to obtain the same result’ as the patented invention.” *Id.* (quoting *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 608 (1950)). It also held that the district court’s finding that the novel compounds “were closely related to and functioned the same way to achieve the same result” as proscribed compounds (and thus were covered by the doctrine of equivalents) was not clearly erroneous. *Id.*

Syntex did not involve after-the-fact contempt proceedings because the preliminary injunction there had a mechanism for seeking *advance* leave. But whether presented via advance approval or after-the-fact enforcement, *Syntex* involved the same basic issue as this case: the interpretation of an existing court order with respect to “new” products. Like the trade secrets at issue here, the trade secrets at issue in *Syntex* derived from a massive, years-long development effort. *See id.* at 680 (“Syntex estimates that it spent more than an additional one million dollars and twenty man-years of time to develop and obtain [FDA] approval for its

commercially feasible oxygen permeable polycon lens material”). And like the H-Series, the new monomers were not adjudicated in the original proceeding and were not identical to the monomers expressly named in the preliminary injunction. Nonetheless, the Seventh Circuit affirmed the district court’s holding that the preliminary injunction extended to the new monomers under the doctrine of equivalents because the new monomers were closely related to and functioned the same way to achieve the same result as proscribed compounds. *Id.* at 684.

Unlike *Syntex, Computer Displays* did concern contempt proceedings—albeit one to enforce a consent decree rather than a unilaterally imposed court order. *See Computer Displays*, 739 F.2d at 1152. In *Computer Displays*, Motorola employees left Motorola and formed a new company, Computer Displays International (CDI). *Id.* at 1151. CDI began marketing and selling a monitor called the “MPG,” which was substantially identical to Motorola’s “DS” monitor. *Id.* at 1152. Motorola sued for trademark and copyright infringement, breach of employment contracts, and misappropriation of confidential information. *Id.* The suit ended with a consent decree enjoining the manufacture, use, and sale of the MPG monitor. *Id.* Specifically, the consent decree provided: “Defendants are permanently enjoined from manufacturing, using and selling the display modules currently designated by CDI as its Model MPG series and all models embodying Motorola information” *Id.*

CDI then attempted to introduce a new line of display monitors, the Model CDI. *Id.* Motorola sought a temporary restraining order against the sale of the Model CDI monitors and a rule to show cause why CDI should not be found in contempt for violating the consent decree. *Id.* at 1153. The district court initially denied the TRO, but ultimately it held CDI in contempt. *Id.* The court applied the doctrine of equivalents and held that the Model CDI monitor (the new product) was the “same” as the Model MPG monitor (the product prohibited by the consent decree). *Id.* The district court found that the alleged redesign only changed nonessential aspects of the monitors but did not alter their basic functionality, *i.e.*, the configuration of their internal layout. *See id.* at 1157–58 (plaintiff’s expert noted that “60–70% of the circuits in the MPG and Model CDI were exactly alike” and where the circuits were not identical, they were still equivalent “in terms of means, function and result”).¹¹

The Seventh Circuit affirmed. It observed first that even though the consent decree specifically identified only the Model MPG series, “[t]he district court interpreted the clause” barring sale of the MPG series “to mean that CDI could not

¹¹ Separately, the district court also found that certain features of CDI’s MPG and Model CDI monitors originated with Motorola’s DS monitor and thus constituted use of confidential Motorola information in violation of the consent decree. *Id.* at 1153. The Seventh Circuit did not reach this issue on appeal. Rather, it “agree[d] with the district court’s determination that the Model CDI was substantially like the MPG,” and thus determined that it “need not reach the issue whether the Model CDI embodied confidential and/or proprietary Motorola information.” *Id.* at 1159.

sell the MPG monitor or any monitor that was the ‘same’ as the MPG.” *Id.* at 1156. Moreover, the Seventh Circuit noted that “CDI d[id] not contest this eminently logical interpretation of the decree.” *Id.* “Rather, CDI challenge[d] [1] the degree of identity barred and [2] the methodology used by the district court to determine that degree of identity.” *Id.*

On the first of these issues (the degree of identity barred), the district court applied a standard of “substantial likeness” between the Model CDI monitors (the “new” model) and the Model MPG monitors (the proscribed model). *Id.* The Seventh Circuit found “no error” in this “interpretation of the scope of the injunction.” *Id.* It reasoned that limiting the scope of the consent decree to “only the sale of a display monitor series *identical to the MPG in all respects or with only minimal changes* would make the injunction meaningless.” *Id.* (emphases added). Thus, “more than a trivial change would be required to comply with the decree.” *Id.* “Moreover,” the court explained, “this interpretation is in accord with trade secret law, which protects the holder of a trade secret from uses *substantially* derived from that secret.” *Id.* (emphasis in original).

On the second issue (the methodology to determine the degree of identity), the Seventh Circuit noted that the “question for the district court was whether the Model CDI monitor was substantially like the MPG,” and “[t]he consent decree d[id] not specify how th[at] determination [was] to be made.” *Id.* The district court had employed the doctrine of equivalents, and the Seventh Circuit found that approach appropriate. *Id.* at 1157. It noted that “the doctrine of equivalents is strictly a patent law doctrine” but nevertheless remarked that “its usefulness in determining analogous trade secret cases had been noted and approved.” *Id.* “Use of the doctrine in a trade secret case is particularly appropriate where, as here, the parties have contracted through the consent decree to prohibit the manufacture and sale of a display monitor substantially like the ‘secret’ monitor.” *Id.* Accordingly, the Seventh Circuit held that “the district court properly applied the analogous patent law doctrine of equivalents to effect the parties’ intent as embodied in the consent decree.” *Id.*

The Seventh Circuit then concluded that “the district court’s finding that the [redesigned] monitor was substantially like the [enjoined] monitor was not clearly erroneous.” *Id.* at 1159. Motorola “concede[d] that CDI made some changes from the MPG,” and CDI emphasized its “alterations in the mechanical components” (“[t]he chassis pan shape, location of heat sinks, and method of attaching the PCB”), but these differences (which Motorola conceded) “neither weaken[ed] nor contradict[ed] the district court’s finding of substantial identity.” *Id.* at 1157. Rather, CDI’s witnesses “all agreed that the heart of any electronic device is its circuits.” *Id.* at 1158. And notwithstanding the redesign, a high degree of identity remained between the redesigned circuits and those of the proscribed products. *Id.* Notably, evidence of the redesign process was relevant to determining whether the products were substantially alike: As “[f]urther support for the district court’s finding of substantial

likeness,” the Seventh Circuit noted that evidence of CDI’s redesign process “suggest[ed] that CDI never intended to undertake a full redesign effort to avoid the proscriptions of the consent decree.” *Id.* at 1158–59. Specifically, Motorola presented expert testimony that the changes were made in circuitry that was the easiest to redesign, that there were oddities in the redesign process (it was completed in reverse order from the customary design effort), that attempts to alter circuits in the redesigned monitor failed so the designer reverted to circuits used in the proscribed monitor, and that CDI made representations to its customers regarding renaming the model and maintaining certain identical features. *Id.*

In sum, *Computer Displays* affirmed a district court contempt finding that (1) interpreted the relevant court order (there, a consent decree) in light of the history underlying that court order; (2) applied the order to new products that were “substantially like” the proscribed products, analogizing to the patent law doctrine of equivalents; and (3) considered evidence of the redesign process in determining whether new products were substantially like the proscribed products.

Although *Computer Displays* involved a consent decree rather than a unilaterally imposed court order, it remains instructive. The Seventh Circuit explained throughout that the interpretation of the consent decree was a matter of “effect[ing] the parties’ intent as embodied in the consent decree”—and deemed the use of the doctrine of equivalents “in a trade secret case *particularly* appropriate where, as here, the parties have contracted through the consent decree to prohibit the manufacture and sale of a display monitor *substantially like* the ‘secret’ [proscribed] monitor.” *Id.* at 1157 (emphases added). But the opinion does not say that analogizing to the doctrine of equivalents is *only* appropriate in the context of a consent decree. Rather, the court noted that, “[w]hile the doctrine of equivalents is strictly a patent law doctrine, its usefulness in determining analogous trade secret cases had been noted and approved.” *Id.* And as discussed above, *Syntex*—which involved a unilaterally imposed preliminary injunction rather than an agreed consent decree—affirmed a district court’s use of the doctrine of equivalents to interpret the injunction to reach new products not expressly named in the injunction. *See* 701 F.2d at 684.

One month after *Computer Displays*, the Seventh Circuit decided *Am. Can II*—a case with an exceptionally complex procedural history. In *Am. Can II*, defendant Mansukhani worked for plaintiff American Can (and its predecessors), where he developed jet inks according to particular customers’ requirements. *Am. Can Co v. Mansukhani*, No. 81-C-1372, 1982 WL 63796, at *4 (E.D. Wis. June 18, 1982). “Although Mansukhani was an experienced ink chemist, he had no experience in the field of jet ink development at the time [American Can’s predecessor] hired him.” *Id.* After four years, Mansukhani left, formed his own company, and began selling inks to American Can’s customers that were “identical to the inks Mansukhani helped develop while working for [American Can]’s predecessors.” *Id.* at *7; *see id.* at *4.

American Can filed a complaint seeking to enjoin Mansukhani and related defendants “from selling inks which it claims defendants developed by misappropriating its trade secrets.” *Id.* at *1. The district court held an evidentiary hearing (effectively a bench trial) and issued a final decision on the merits of plaintiff’s claims, permanently enjoining defendants’ sale of certain commercial jet inks. *Id.* at *11. The district court found that “defendants simply reproduced plaintiff’s product and sold it to plaintiff’s former customers at a lower price.” *Id.* at *9. Thus, it permanently enjoined the defendants “from selling the commercial jet inks developed while Mansukhani was employed by plaintiff’s predecessor to the companies or individuals for whom those inks were specifically developed, or to any other companies or individuals.” *Id.* at *11. The Seventh Circuit affirmed. *Am. Can v. Mansukhani* (*Am. Can I*), 728 F.2d 818 (7th Cir. 1982); *see also Am. Can Co. v. Mansukhani* (*Am. Can III*), 814 F.2d 421, 422–23 (7th Cir. 1987) (describing procedural history).

After the district court issued the permanent injunction, defendants tried to sell new inks, resulting in contempt proceedings. In the contempt proceedings, “American Can sought an ex parte temporary restraining order, a preliminary injunction, and an order holding the defendants in contempt for violation of the permanent injunction.” *Am. Can III*, 814 F.2d at 423 (describing litigation underlying *Am. Can II*). The district court granted the TRO and, later, the preliminary injunction. *Am. Can II*, 742 F.2d at 318–19. These orders were the subject of *Am. Can II*—which, of the various opinions in the *American Can* litigation, is the most directly relevant here. Thus, it appears that the TRO and preliminary injunction at issue in *Am. Can II* were part of the contempt proceedings, not the original litigation that led to the permanent injunction.

The preliminary injunction in the contempt proceedings “returned to the language of the permanent injunction; defendants were still enjoined from selling ‘those commercial jet inks developed while Mansukhani was employed by plaintiff’s predecessor’” *Am. Can II*, 742 F.2d at 332. But unlike the initial permanent injunction, the new “prohibition” (*i.e.* the preliminary injunction) “also specifically included inks SK–2914 and SK–2916,” defendants’ new inks. *Id.* Although the district court had granted the TRO and the preliminary injunction, the district court “ha[d] not yet acted on” the request for a contempt finding when defendants took an interlocutory appeal challenging the TRO and preliminary injunction—the appeal at issue in *Am. Can II*. *Id.* at 319 n.5; *see Am. Can III*, 814 F.2d at 424 (noting *Am. Can II*’s interlocutory posture).

In *Am. Can II*, the Seventh Circuit vacated the new preliminary injunction for two reasons. *First*, the district court had “appl[ied] an incorrect legal standard to determine the plaintiff’s likelihood of success on the merits.” *Am. Can II*, 742 F.2d at 326. Specifically, the district court had applied a standard of “functional or practical similarity,” but the Seventh Circuit emphasized the necessity of a “finding that defendants’ new inks were in fact *substantially derived* from plaintiff’s trade

secrets and not from the public information and [defendant] Mansukhani's own skill, knowledge and experience." *Id.* (emphasis added). *Second*, due to the incorrect legal standard, the new preliminary injunction did not comply with Rule 65(d) because its terms were "too vague to give the defendants fair notice of the prohibited conduct." *Id.*; *see also id.* at 331.¹²

Am. Can II's precise weight in this context is debatable. On the one hand, *Am. Can II* was an interlocutory appeal involving the review of a preliminary injunction, not an ultimate contempt finding. As the Seventh Circuit later observed, *Am. Can II* "reached no decision regarding the contempt issue because at the time of that appeal the district judge had not reached a decision regarding contempt." *Am. Can III*, 814 F.2d at 423; *see also Am. Can II*, 742 F.2d at 319 n.5. On the other hand, the preliminary injunction was sought and issued within contempt proceedings, and *Am. Can II* held in that context that the proper standard for likelihood of success on the merits (the merits presumably being the issue of contempt) was substantial derivation rather than functional or practical similarity.

But there is no need to resolve this debate in this case. A critical feature of *Am. Can II*, emphasized repeatedly throughout the opinion, is that the trade secrets (as established in the original bench trial that led to the permanent injunction) were extremely narrow. *See, e.g., Am. Can II*, 742 F.2d at 327 ("[P]laintiff's formulas are

¹² To complete the procedural history:

On remand from *Am. Can II*, the district court denied American Can's contempt motion, holding that the new inks were not covered by the original permanent injunction. *See Am. Can III*, 814 F.2d at 423–24 (discussing the district court's opinion on remand). The district court then found that the new inks were substantially derived from American Can's trade secrets and issued a supplemental permanent injunction covering those inks. *Am. Can Co. v. Mansukhani*, 621 F. Supp. 111, 113 (E.D. Wis. 1985). The court relied in part on the speed of Mansukhani's "development" process for the new inks. *Id.* ("In reaching this decision, the Court was particularly impressed by (1) the fact that the defendants were able to 'develop' their inks in a few hours, as opposed to the years it took the plaintiff to research and test its formulas . . .").

The Seventh Circuit affirmed. *Am. Can III*, 814 F.2d at 426. The Seventh Circuit noted that "[t]he district court was entirely correct in assuming that it possessed the authority to grant further injunctive relief." *Id.* at 424 n.5. As to the merits of the permanent injunction against the new inks, the Seventh Circuit found the evidence in support of the injunction "overwhelming" and cited the speed of the "development" as evidence of substantial derivation (among other evidence): "Substantial derivation is apparent . . . from the fact that [Mansukhani] developed the SK inks in a matter of hours, when American Can's inks typically took years to create. Mansukhani has not advanced an explanation for this purportedly epiphanic episode and the district court found that the explanation was Mansukhani's misappropriation of the plaintiff's proprietary information. We concur." *Id.* at 426.

protected only within a very narrow range of proportions. Anything beyond that narrow range is simply not a secret.”). Thus, the original permanent injunction, read in the context of the entire procedural history of the case and the narrow scope of the trade secrets established at trial, was correspondingly narrow, and any subsequent injunction issued to enforce the permanent injunction had to track that exceedingly narrow scope.

The Seventh Circuit explained that American Can had narrowed its trade secrets at trial to avoid Mansukhani’s defense that American Can had made its ink formulas public in patent applications. *Id.* at 326. At trial, the district court had held that despite identical ingredients in similar proportions, minor differences in the *precise* proportion of some ingredients were enough to make American Can’s formulas trade secrets. *Id.* at 327. American Can’s “protected trade secrets, then, must lie in the *precise proportions* of the ingredients in the 400 Series formulas. In light of the patent, plaintiff’s formulas are protected only within a very narrow range of proportions. Anything beyond that narrow range is simply not a secret.” *Id.* at 327; *see also id.* at 329–30 (“[T]he *scope* of American Can’s trade secrets was extremely narrow—the protected secrets are limited to the *precise proportions* of ingredients which are themselves already in the public domain.”). The Seventh Circuit also emphasized Mansukhani’s substantial independent experience, skill, and expertise. *See id.* at 330 (“It is also clear that Mansukhani has substantial skill, knowledge and experience in formulating commercial jet inks, and he is entitled to use those skills to compete against American Can.”).

Put another way, Mansukhani’s new inks were very similar to the inks proscribed by the permanent injunction, but the inks proscribed by the permanent injunction were themselves very similar to public, non-trade secret formulas. Accordingly, to prevail at trial, American Can voluntarily narrowed its trade secrets claimed at trial to precise proportions of ingredients. It was on the basis of those narrow trade secrets that American Can succeeded at trial and obtained the permanent injunction proscribing sales of certain inks. In that context, the Seventh Circuit held that using a “functional or practical similarity” standard, as opposed to a “substantial derivation” standard, was not appropriate to “determine whether defendants should be enjoined from selling their new inks.” *Id.* at 331. Again, that holding turned heavily on the very narrow scope of the trade secrets:

Similarity may be probative of derivation, but it is much less probative where the scope of the trade secrets is as narrow as it is in this case. The “similarity” standard lost sight of the original limitations on the plaintiff’s trade secrets. Plaintiff was entitled to protection only if defendants’ new inks were substantially derived from plaintiff’s trade secrets and not from public information and Mansukhani’s general skill, experience and knowledge. More than a finding of similarity was required where the public information and defendant’s own knowledge confined so narrowly the scope of the valid trade secrets.

Id. (footnote omitted).

Based on the same reasoning, the Seventh Circuit then held—again relying principally on the narrow scope of the trade secrets—that the preliminary injunction was too vague under Rule 65(d). *Id.* (“Many of these same considerations also lead us to conclude that the preliminary injunction is too vague in scope to pass muster under Rule 65(d).”). The Seventh Circuit compared the original permanent injunction and the subsequent preliminary injunction and noted that while both used similar operative language, given the narrow trade secrets, the district court’s use of the similarity test improperly expanded the scope of the permanent injunction.

The permanent injunction enjoined the defendants from “selling the commercial jet inks developed while Mansukhani was employed by plaintiff’s predecessor to the companies or individuals for whom those inks were specifically developed, or to any other companies or individuals.” *Id.* The district court clarified that “the order was not limited to those inks which had been the focus of the trial” but applied to “any of those commercial jet ink formulas developed for specific customers while Mansukhani was employed by plaintiff’s predecessors.” *Id.* The Seventh Circuit noted: “For present purposes, the key factor is that the permanent injunction as clarified was issued in the context of a trial involving absolutely identical inks with the same components in the same proportions to within one-tenth of one percent.” *Id.* at 331–32.

The subsequent preliminary injunction used similar operative language—“defendants were still enjoined from selling ‘those commercial jet inks developed while Mansukhani was employed by plaintiff’s predecessor’”—but “[t]he prohibition also specifically included inks SK–2914 and SK–2916” (Mansukhani’s new inks). *Id.* at 332. The Seventh Circuit noted that “although the operative language remained the same, the context had changed significantly,” and the district court’s use of a similarity standard “expanded the scope of the prohibition”: “An ink may fall within the preliminary injunction if it is merely similar to one of plaintiff’s formulas, including even those which have not yet been proven to be trade secrets.” *Id.*

Thus, *Am. Can II*’s reasoning throughout (as to both the standard for likelihood of success and Rule 65(d)) depended on (1) the extremely narrow scope of the trade secrets at issue there, which was itself the product of (2) plaintiff’s own deliberate choice to narrow the trade secrets in order to prevail at trial. The Seventh Circuit analogized to patent estoppel and explained that “[r]egardless whether the label ‘estoppel’ is applied, the same reasoning applies here.” *Id.* at 330. “American Can was able to sustain its original trade secret claims only by narrowly confining the scope of those claims to distinguish them from information in the public domain. The courts cannot now disregard those necessary limits when considering the scope of relief to which American Can is entitled.” *Id.*; cf. *Festo Corp. v. Shoketsu Kinzoku Kabushiki Co., Ltd.*, 535 U.S. 722, 733–34 (2002) (“When, however, the patentee originally

claimed the subject matter alleged to infringe but then narrowed the claim in response to a rejection, he may not argue that the surrendered territory comprised unforeseen subject matter that should be deemed equivalent to the literal claims of the issued patent.”).

Am. Can II also noted the uniqueness of the facts and procedural history there, observing that “[i]n most instances, the close similarities between the products would no doubt support findings that trade secrets had been misappropriated. In this case, however, it is essential to keep in view the original limitations *which permitted plaintiff to show that its formulas deserved any protection at all.*” 742 F.2d at 330 (first emphasis added). Similarly, the Seventh Circuit “recognize[d] that courts have on occasion extended trade secret protection beyond the scope of the plaintiff’s trade secrets where effective relief would otherwise have been impossible. However, those cases generally involve much broader trade secrets or products which simply could not be made without some use of the trade secrets.” *Id.*

Thus, *Am. Can II* did not bar consideration of functional or practical similarity in all trade secret contempt cases. Rather, it emphasized the limited utility of functional and practical similarity in cases involving exceedingly narrow trade secrets, while leaving more room for similarity when the trade secrets are broad.

Hytera notes that *Am. Can II* distinguished *Computer Displays* because the latter involved a consent decree, not a unilateral court order. *See id.* at 333 n.22. But *Am. Can II* did not cabin *Computer Displays*’s “substantial likeness” standard (or analogy to the doctrine of equivalents) to cases involving consent decrees or hold that *Computer Displays*’s analysis was entirely inapplicable to unilateral court orders. To the contrary, *Am. Can II* observed that “[i]n most instances, the close similarities between the products would no doubt support findings that trade secrets had been misappropriated.” *Id.* at 330 (emphasis added). And *Am. Can II* did not overrule *Syntex*, which had analogized to the doctrine of equivalents in a case involving a unilateral court order. *See id.* at 327, 332, 333 n.23 (citing *Syntex* favorably); *Syntex*, 701 F.2d at 684 (noting that the district court “properly applied the doctrine of equivalents” in interpreting a preliminary injunction).

Two key principles emerge from a close reading of *Syntex*, *Computer Displays*, and *Am. Can II*. *First*, the interpretation of a court order (whether an injunction or, as here, a royalty order) must be informed by the history of the case that produced that order, including the breadth of the trade secrets proved at trial. *Cf. Milk Wagon Drivers Union of Chi., Local 753 v. Meadowmoor Dairies*, 312 U.S. 287, 298 (1941) (“Such an injunction must be read in the context of its circumstances.”). Where the underlying trade secrets are narrow, so too is the resulting order. But where the underlying trade secrets are broad, the resulting order is likely to be broad as well. *Second*, an order may extend to products “substantially like” the specifically identified products to avoid relief being rendered ineffective. *See Computer Displays*, 739 F.2d at 1156 (“To say that the consent decree prohibited only the sale of a display

monitor series identical to the MPG in all respects or with only minimal changes would make the injunction meaningless.”); *see also Bianco I*, 53 F. Supp. 3d at 942 (noting that a defendant “cannot avoid its royalty obligations simply by renaming its products or making some trivial and immaterial change in the products”); *cf. Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (“It is of course essential to any protection of literary property . . . that the right cannot be limited literally to the text, else a plagiarist would escape by immaterial variations.”). And in the trade secret context, evidence of the redesign process is relevant to determining whether products are “substantially like” the specifically enumerated products. In light of the first principle, this principle is especially pertinent when the underlying trade secrets are broad.

II. Hytera’s Contempt of the Royalty Order

Applying these principles to the case at hand amply supports a finding of contempt. *First*, the history of this case supports a relatively broad reading of the royalty order, not the cramped reading Hytera offers. *Second*, Hytera’s redesign process demonstrates that the H-Series was (like the products adjudicated at trial) built on the foundation of Motorola’s trade secrets, and the resulting differences between the H-Series and the products adjudicated at trial are not significant enough to evade the royalty order. Hytera’s failure to pay royalties for the H-Series was thus a significant violation of Judge Norgle’s unambiguous command. And Hytera has not shown that it made reasonable and diligent efforts to comply with the royalty order. Accordingly, the court finds Hytera in contempt.

A. History of the Case

The royalty order requires Hytera to pay royalties on the products adjudicated at trial. It defines “Covered Products” as “the Hytera products that Motorola specifically identified in its submission.” [1349] § 1.2 (citing [1118-3]). Motorola’s submission, in turn, listed by product number the products adjudicated at trial. *See* [1118-3]. The H-Series—which did not exist at the time of trial and thus was not adjudicated at trial—is not expressly listed. But “[i]f narrow literalism is the rule of interpretation, injunctions will spring loopholes, and parties in whose favor injunctions run will be inundating courts with requests for modification in an effort to plug the loopholes.” *Schering Corp. v. Ill. Antibiotics Co.*, 62 F.3d 903, 906 (7th Cir. 1995) (citations omitted). Thus, “like most legal rules, the rule of strict construction of injunctions should not be pressed to a dryly logical extreme.” *Id.* Rather, “[a]n order basing ongoing royalty payments on future sales of” adjudicated products “implicitly extends to any products that are not colorably different from those products.” *Bianco I*, 53 F. Supp. 3d at 942. And an order may (by analogy to the doctrine of equivalents) extend to products that are “substantially like” the specifically enumerated products. *See Computer Displays*, 739 F.2d at 1156–59; *see also Syntex*, 701 F.2d at 684; *Am. Can Co. v. Mansukhani*, 621 F. Supp. 111, 113 (E.D. Wis. 1985) (“While the need for requiring specific, detailed injunctions is not in doubt, it is equally clear that semantic

differences can serve as grist for sophistic arguments that nothing but an injunction containing one or more particular terms will suffice as notice to a party of what he is constrained by law from doing. The chimerical nature of such an argument is particularly apparent in this case where the defendants surely know, in their own minds, whether they are developing new formulas or using the plaintiff's trade secrets.”).

The history of this case supports interpreting the royalty order to implicitly include products that are substantially like the products adjudicated at trial. In *Am. Can II*, the extremely narrow nature of the trade secrets at issue led to the conclusion that the resulting order should likewise be construed narrowly. *See* 742 F.2d at 331. Here, by contrast, the trade secrets proved at trial are extremely broad. They comprised Motorola's “playbook” for its DMR products, which was painstakingly developed over the course of decades. Importantly, the trade secrets covered overlapping features at varying levels of abstraction, ranging from Motorola's entire body of source code, to the modular “architecture” providing the structure for that code, to the specific designs and implementations of the various “modules” within that architecture. That breadth was on full display during the three-and-a-half month trial and was attested to by the jury's decisive verdict and Judge Norgle's posttrial rulings leading up to the royalty order (while the H-Series redesign was already underway).¹³ At trial, “Motorola proved that Hytera stole 21 distinct trade secrets,” [1100] at 3, including “the entirety of Motorola's highly confidential DMR source code and thousands of confidential documents,” [1156] at 2. As Judge Norgle explained, the jury “found all trade secrets misappropriated and all copyrights infringed,” [1097] at 3, and the evidence in support of that verdict was “overwhelming,” [1088] at 2. Hytera then used those trade secrets to sell competing DMR radios that either contained or were created using the misappropriated trade secrets, and continued selling the accused products for nearly ten years (earning \$734.1 million in revenue in the process). [1100] at 15, 24. On appeal, Hytera did not contest liability and “concede[d] that it engaged in the blatant theft of trade secrets and copying of proprietary computer code.” *Motorola Sols.*, 108 F.4th at 468.

Hytera seizes on other statements made by Judge Norgle to argue that the royalty order should be strictly construed. But these statements do not support Hytera's position.

First, Judge Norgle rejected Motorola's attempt to expressly include the H-Series in the list of products for which royalties would be due because the H-Series had not been adjudicated at trial. At the time of that ruling, Judge Norgle had not

¹³ Hytera started its redesign and launched the H-Series well before the royalty order was finalized, and did so in parallel with the posttrial litigation over its scope. Judge Norgle did not rule that the order would be limited to “Covered Products” until December 2021, [1289]—nearly two months after the H-Series had already launched in Europe.

been presented with any evidence regarding the H-Series. Thus, his ruling was simply a prudent example of deciding no more than what was before the court at the time and avoiding ruling on hypotheticals. *See TransUnion LLC v. Ramirez*, 594 U.S. 413, 423 (2021) (“[F]ederal courts do not adjudicate hypothetical or abstract disputes.”). It does not suggest that the H-Series would not, on further evidentiary development, be found within the scope of the royalty order—much less foreclose that conclusion now that such evidentiary development has occurred.

Second, Judge Norgle rejected Motorola’s attempts to include broader catchall language in the definition of “Covered Products” that would have included “for the avoidance of doubt, any product based in whole or in part, on or from or incorporating any of the Motorola Trade Secret Information or Motorola Copyrighted Works (or any portion thereof) in any manner whatsoever.” [1309] at 3, 19–21; *see* [1338] at 7–8. But the rejection of a broad catchall that would have included *any* product that misappropriates Motorola’s trade secrets does not suggest a narrow and hyperliteral understanding of the language that was included. Rather, it suggests at most that *some* product could be conceived that would misappropriate Motorola’s trade secrets but not be substantially like the adjudicated products (and thus not covered by the royalty order). This conclusion is supported by Judge Norgle’s statement that Hytera would “owe[] royalties all the same” for an “identical” but “renumbered” product. [1338] at 7. Although this remark covered only an “identical” but “renumbered” product, it nowhere suggests that this set the outer bound of the royalty order. Rather, this remark merely confirms that Judge Norgle did not understand his royalty order to require complete identity.

Further evidence against a dryly literal reading of the royalty order is found in Judge Norgle’s ruling that “Hytera may only use [Motorola’s trade secrets and copyrights] in conjunction with the products subject to the royalty.” [1298] at 56. This ruling makes clear that the royalty order does not leave Hytera free to continue misappropriating Motorola’s trade secrets so long as the product in which it does so is nominally different from the products expressly listed.

B. Substantial Likeness

Having sat through a months-long trial in which Motorola claimed that Hytera’s entire codebase was contaminated by misappropriated trade secrets (and having seen the decisive jury verdict and Judge Norgle’s many posttrial rulings), Hytera was on notice that it could not evade the resulting royalty order by merely tweaking the adjudicated products. *See Bianco I*, 53 F. Supp. 3d at 942 (stating that a contemnor “cannot avoid its royalty obligations simply by renaming its product or making some trivial and immaterial change in the products”). It was thus incumbent on Hytera to take a thorough and conservative approach to its redesign if it wanted to avoid incurring royalty obligations. *See Panther Pumps & Equip. Co. v. Hydrocraft, Inc.*, 566 F.2d 8, 21 (7th Cir. 1977) (“Having been enjoined from producing and selling an equivalent pump, it was incumbent on Beck to exercise care in avoiding such

conduct.”); *Processed Plastic Co. v. Warner Bros., Inc.*, No. 81-cv-3028, 1982 WL 52194, at *2 (N.D. Ill. July 14, 1982) (“The guiding principle with respect to contempt of injunction orders is that ‘[A] party once convicted of infringement or unfair competition should keep a safe distance from the margin line between compliance with the order and a violation.’ This principle is well known in equity.” (quoting *World’s Finest Chocolate, Inc. v. World Candies, Inc.*, 409 F. Supp. 840, 844 (N.D. Ill. 1976))). Hytera’s redesign, however, fell far short and resulted in a product—the H-Series—that was “substantially like” the products named in the royalty order.

Evidence of substantial likeness may include the degree of “identity” between the products. *Computer Displays*, 739 F.2d at 1156–59. Even when products are not exactly alike, they may be “equivalent in terms of means, function and result.” *Id.* at 1158 (internal quotation marks omitted); *Syntex*, 701 F.2d at 684 (affirming district court’s interpretation of order to include “novel” monomers where they “were closely related to and functioned the same way to achieve the same result”). In evaluating the degree of identity between the products, the court focuses “not on differences between randomly chosen features” of the two products, but on “those aspects of the accused product that were previously alleged to be, and were a basis for, the prior finding of infringement.” *TiVo*, 646 F.3d at 882. This, too, requires the court to consider the breadth of the trade secrets adjudicated at the underlying trial. In this case, that includes Judge Norgle’s statement that the “jury in fact found all trade secrets misappropriated and all copyrights infringed,” [1097] at 3, and Judge Norgle’s finding that Hytera stole twenty-one trade secrets at trial, constituting the playbook by which Motorola engineers built its radios.

Hytera cites several changes to its modules and source code that, it claims, defeat substantial likeness. The H-Series redesign purportedly removed more than 500,000 lines of code and added more than 300,000 lines. McDonald Decl. ¶¶ 89–92. Hytera claims it removed certain modules altogether—such as the VOX functionality and the unified connectivity layer. According to Hytera, these changes resulted in broader changes to the codebase writ large, thus rendering the H-Series not substantially like the products adjudicated at trial.

But the details tell a different story. As discussed above, Hytera left several Motorola trade secrets in place. Many of the changes Hytera did make were merely cosmetic. And even when Hytera made real changes, it often did so simply by simply swapping out lines of code, modules, and portions of modules for functional equivalents in a plug-and-play fashion without changing the underlying structure or architecture. See [1699] (██████████ Dep.) 20:13–15 (testimony of Hytera engineer that “if there was a Function A before the clean-up and there would be Function A as well after clean-up”). This ensured that Hytera could continue to profit off Motorola’s designs. These replacements of lines of code with functional equivalents did nothing to change the product’s reliance on Motorola’s trade secrets (which included the software architecture). See Hr’g Tr (Rangan) 334:1–4 (asserting that the H-Series is

“still using the functional equivalents of all of the components of the [Common Platform Architecture]”).

As Dr. Wicker concluded, Hytera’s changes to its codebase do not reflect an honest effort at a redesign, but merely an attempt to “hide the use of adjudicated code” by changing inconsequential aspects of it. Wicker Rep. ¶ 549. Extensive evidence reflects a substantial degree of functional similarity between the H-Series and the adjudicated products—including the similarities between the specific lines of code, documents used to develop the products, and the products’ codebase architecture. *See, e.g., id.* ¶¶ 821–23, 960–63, 506–12, 584–615, apps. C & D. As Dr. Wicker testified, “Hytera’s H-Series team has taken out little pieces of the overall puzzle piece, sometimes changed names, sometimes made some other small changes and then inserted them back while preserving the overall functionality of the various puzzle pieces.” Hr’g Tr. (Wicker) 510:7–11.

Crucially, Hytera’s redesign process (like that of the defendant in *Computer Displays*) “support[s]” a “finding of substantial likeness.” *Computer Displays*, 739 F.2d at 1158–59. Hytera’s fundamental error was building the H-Series on a tainted foundation—the Gen 2 codebase—which incorporated Motorola’s trade secrets. That tainted foundation traces back to Hytera’s original misappropriation.

Before 2008, Hytera struggled to develop a prototype for its DMR products. Early designs suffered from what Y.T. Kok—a Hytera (and former Motorola) employee implicated in the underlying trial—characterized as a “Monolithic, Spaghetti System.” Rangan Rep. ¶ 63 (quoting a slide from a presentation given by Y.T. Kok titled “HYT Common Platform Architecture”). A significant advantage Hytera derived from its misappropriation was copying Motorola’s more flexible modular system to create its “Common Platform Architecture” (CPA). *Id.* ¶ 64; Wicker Rep. ¶ 83. But this “foundational” aspect of Motorola’s codebase took decades to develop. Trial Tr. 609:6–615:16, 1312:7–16, 1891:17–1892:5, 1929:19–1931:22. Without having to develop its own basic architecture, Hytera was able to proceed directly to developing higher-level modules and additional features in its DMR products. Hr’g Tr. (Grimmett) 964:11–24.

At trial, Motorola claimed trade secret protection not only in its constituent “modules,” but also in the underlying *architecture* used to organize these modules. Trial Tr. 620:19–626:19, 632:4–23. Because the jury found “all trade secrets misappropriated,” [1097] at 3, Hytera was on notice of the scope of the underlying trade secrets. *See also* Grimmett Dep. 171:1–9 (“I accept that, you know, there was a guilty . . . verdict and all 21 trade secrets were upheld by the court.”).

Hytera could have redesigned the H-Series from scratch in a clean room. Rangan Rep. ¶¶ 100–03; Hr’g Tr. (Wicker) 384:12–14 (Hytera “certainly could have” started from scratch). None of Hytera’s witnesses ever affirmatively stated that this would have been *impossible* from a technical standpoint. [REDACTED] Dep. 63:8–67:12. But

for business reasons, Hytera instead chose to begin its process using its existing, contaminated codebase as its starting point. Hytera delegated sole responsibility for determining the scope of Motorola’s adjudicated trade secrets to two of its experts—Grimmett (who had testified for Hytera at trial) and McDonald. Together, Grimmett and McDonald conducted their own review of the pretrial and trial record. Hr’g Tr. (Grimmett) 947:5–949:21. Even one of Hytera’s own experts acknowledged that Hytera’s redesign did not meet his criteria for a “gold standard” redesign—*i.e.*, redesigning the entire product from scratch. Hr’g Tr. (Zeidman) 1042:19–24, 1044:11–1046:5 (describing Hytera’s method as a “hybrid” approach).

The court accepts for the sake of argument that any “clean room” process implies the existence of a “dirty room”—in other words, that there must be some personnel with knowledge of and access to the contaminated intellectual property to determine how to redesign the new product to avoid that intellectual property. The court assumes further that Hytera’s process was not per se insufficient because some of its redesign team members (*e.g.*, McDonald and Grimmett, “cleanup team” members like [REDACTED]) had this knowledge and access. *See ECIMOS, LLC v. Carrier Corp.*, No. 2:15-cv-2726-JPM-cgc, 2019 WL 5872515, at *5 (W.D. Tenn. Aug. 15, 2019) (“[I]t is acceptable for the dirty room developers to have some exposure to the protected intellectual property, so . . . long as information about the protected intellectual property does not get passed to the clean room developers.”), *aff’d*, 971 F.3d 616 (6th Cir. 2020). Even so, Hytera’s process failed to ensure that the “dirty” members of its team played no role in the subsequent development of new, “clean” code.

First, one of Hytera’s experts testified that he was “comfortable” with Hytera’s process since “the monitor”—*i.e.*, Grimmett and McDonald—“was monitoring . . . the communications between the teams” to ensure that no cross-contamination occurred. Hr’g Tr. (Zeidman) 1046:11–14. But in reality Grimmett and McDonald’s level of access to Hytera’s internal workings was limited. Hr’g Tr. (McDonald) 793:5–11 (McDonald testified that he was not physically present at Hytera during the redesign and “d[idn’t] know what happen[ed] internally” there, but “just s[aw] the end product”). Perhaps as a result, the redesign teams did not always follow Grimmett and McDonald’s directions, even when they required removal of misappropriated information. Hr’g Tr. (Grimmett) 1011:16–1012:2.

Second, the evidence suggests that the Cleanup Team not only excised portions of the “old code” at Grimmett and McDonald’s direction, but affirmatively *wrote* new code. Hr’g Tr. (McDonald) 828:24–830:5. The Cleanup Team was responsible for not only deleting portions of the Gen 2 codebase, but also reintegrating new open source, third party alternatives. But to create space for these alternatives, they needed to write code that allowed these alternatives to slot into and interface with the rest of the codebase. *See* Rangan Rep. ¶¶ 122 & n.255, 142 & n.311 (citing Hytera’s Supplemental Responses to Motorola’s Contempt Proceedings Interrogatories Nos. 1–3).

Third, the Specification Team drew on their preexisting knowledge of the contaminated codebase when writing specifications for the “cleanroom” Development Team. The Development Team’s role was limited to writing code for discrete new software modules based on specifications written by the Specification Team. But some Specification Team members—in particular, [REDACTED]—had significant prior exposure to the old intellectual property. So even if the Development Team was technically “clean,” the instructions they received were written by “dirty” personnel whose job was made easier by their prior exposure to contaminated information. Hr’g Tr. (Rangan) 173:22–174:20, 185:7–187:25; *see* [1738-12] (pre-redesign document written by [REDACTED] reflecting influence of Motorola’s intellectual property); [1738-13] (same); [1738-20] (same).

Hytera argues that Motorola does not have a monopoly on many of the broad concepts employed by its software architecture. But Hytera’s choice to use the Gen 2 code as a template meant that its redesign continued to exploit the lessons learned from Motorola’s specific proprietary architecture. Wicker Rep. ¶ 176 (“Hytera’s supposedly changed architecture for the H-Series relied heavily on a process of finding and replacing the existing accused functions, combining data structures into slightly different structures, etc. But those minor tweaks were aimed to provide the same exact functionalities and use the same architecture.”). Some members of Hytera’s redesign team, including Grimmatt, likened the redesign team’s approach to a “jigsaw puzzle” in which the team swapped out certain pieces and replaced them with new ones. Grimmatt Dep. 225:2–17. Others, like McDonald, contested this analogy, noting that the modules’ replacements were not always perfect fits and that, as a result, the surrounding portions of the codebase needed to be modified to reintegrate them. Hr’g Tr. (McDonald) 688:4–690:5. This allegedly resulted in broader changes to the structure writ large. But even if the jigsaw puzzle that Hytera implemented ended up with a different “shape,” it was still informed by the basic configuration of Motorola’s original “puzzle” that it used as its starting point.

Hytera’s focus on which modules were and were not specifically excised in its redesign misses the point. Hytera extensively argues that it removed particular modules, lines of code, or code “libraries” identified as using Motorola’s trade secrets in the underlying trial. *See, e.g.*, [1717] at 43 (table providing a “summary of the key changes” identifying modules that were either completely removed or “[r]emoved and replaced with third-party solutions”); [1703] (Cooklev Rep.) ¶¶ 196–208, 234, 413, 456, 471–72. These were modules identified for removal by McDonald and Grimmatt based on their own examination of what was accused at the underlying trial.

But this approach overlooks the scope of the misappropriation found by the jury at the underlying trial. Motorola’s position at the trial was not simply that Hytera copied certain aspects of its source code or the design of certain modules. Indeed, that was the position advanced by Hytera, which attempted to limit the scope of its misappropriation to particular lines of code while claiming that the remainder of its source code was not contaminated by Motorola’s trade secrets. *See* Trial Tr.

5777:1–14 (Hytera closing: arguing that only 4 percent of Hytera’s code was contaminated). Motorola’s position was that even if some of Hytera’s codes and designs were not directly copied, “all 3500” of Hytera’s source code files were “developed with knowledge and availability of Motorola source code.” Trial Tr. 5073:18–22; *see also id.* 5086:6–5087:2 (Wicker: “I can’t call it independently developed code, because it’s code that was written with all [Motorola’s] information available” including “over a thousand” source code files and “over 1600 documents”).

In short, Hytera built its Gen 2 codebase on Motorola’s trade secrets. Even Grimmer agreed that the entire Gen 2 codebase incorporated the influence of Motorola’s trade secrets on some level. *See* Hr’g Tr. (Grimmer) 959:3–9, 961:9–12 (acknowledging that Gen 2 code was “not clean” and that Hytera started with code that was “influenced by Motorola’s trade secrets”). Yet Hytera’s redesign built on the contaminated foundation of the Gen 2 codebase. By doing so, Hytera inevitably maintained the unfair head start it had gained from its original misappropriation. Rangan Rep. ¶¶ 92–93 (“[B]ecause Hytera did not develop these fundamental building blocks of a DMR radio independently . . . , Hytera’s adjudicated DMR code, and any code derived from the adjudicated DMR code, including the Gen 2 code that served as the basis for Hytera’s H-Series redesign, was thoroughly and incurably contaminated by Motorola’s trade secrets at the most basic and structural levels.”); [1680-13] (Wicker Reply Rep.) ¶ 88; Hr’g Tr. (Grimmer) 967:11–21 (acknowledging “advantages” of starting from a codebase that used the Common Platform Architecture, though contending that Hytera “worked very, very hard over the last four years to remove any advantages”).

The fact that Hytera implemented different ways of solving some of the problems it had previously encountered—via either third-party code or new code—does not change the fact that it relied on Motorola’s trade secrets to know what problems needed to be solved in the first place. By leveraging their knowledge and understanding of Hytera’s contaminated codebase, the redesign teams were able to design the H-Series substantially faster than if they underwent a full “from-scratch” redesign. Hr’g Tr. (Rangan) 214:15–215:1 (Rangan’s opinion that the 18-month timeframe for the H-Series redesign was “very aggressive” and that he “would have expected any other engineering effort to take at least a similar amount of time as Motorola”); *Am. Can III*, 814 F.2d at 425–26 (affirming decision to add new ink products to scope of existing injunctive order when defendant “developed the [accused] inks in a matter of hours, when [plaintiff’s] inks typically took years to create,” and failed to “advance[] an explanation for this purportedly epiphanic episode”). But given the scope of the trade secrets adjudicated at trial, Hytera could have (and, if it wanted to avoid paying royalties, should have) taken a more conservative approach to the redesign. It did not do so, and as a result the H-Series products are substantially derived from the trade secrets embodied in the products adjudicated at trial, providing further support for a finding of substantial likeness.

* * *

In sum, the H-Series is built on the same basic foundation as the Covered Products. While some of its constituent parts have been replaced or reconfigured, its overall structure and functionality are substantially like the Covered Products. Thus, Hytera's failure to pay royalties for the H-Series significantly violates the royalty order's unambiguous command to pay Motorola for sales of Covered Products.¹⁴ See *Hyatt*, 621 F.3d at 692. Moreover, Hytera did not make a "reasonable and diligent" effort to comply with the royalty order. Indeed, only a few months after Judge Norgle set the final terms of the royalty order in April 2022, see [1338], Hytera sought a declaratory judgment on the H-Series' nonmisappropriation and noninfringement from a Shenzhen court, and concealed that litigation from both Motorola and this court until November 2023. See [1503] at 3–6. It is not clear why Hytera would take this action if it truly believed it had acted reasonably and diligently in redesigning its products to excise Motorola's trade secrets.

Accordingly, the court finds Hytera in contempt of the royalty order.

III. Damages

Having found Hytera in contempt, the court now turns to the question of sanctions. Civil contempt sanctions may "be employed for either or both of two purposes: to coerce the defendant into compliance with the court's order, and to compensate the complainant for losses sustained." *United States v. United Mine Workers of Am.*, 330 U.S. 258, 303–04 (1947); accord *Tranzact Techs., Inc. v. 1Source Worldsite*, 406 F.3d 851, 855 (7th Cir. 2005). The court must "consider the character and magnitude of the harm threatened by continued contumacy, and the probable effectiveness of any suggested sanction in bringing about the result desired." *United Mine Workers*, 330 U.S. at 304; see also *Fed. Trade Comm'n v. Trudeau*, 579 F.3d 754, 771 (7th Cir. 2009) ("[T]he particular remedy chosen would be based on the nature of the harm and the probable effect of alternative sanctions." (citation and internal quotation marks omitted)).

Motorola asks the court to order Hytera to pay all amounts due under the royalty order and the royalty order's late payment provision. It also seeks reimbursement of attorneys' fees and costs associated with these contempt

¹⁴ Motorola also argues that the H-Series continues to incorporate its copyrights. However, the court need not reach this argument because it holds that Hytera's products are substantially like, or not more than colorably different from, the adjudicated products in their use of Motorola's trade secrets. That alone is sufficient to hold Hytera in contempt for failing to pay royalties. See *Consumer Fin. Prot. Bureau v. Klopp*, 957 F.3d 454, 459 (4th Cir. 2020) ("[A] single violation of an order is sufficient to support a finding of contempt . . ." (internal alterations omitted) (quoting *Rainbow Sch., Inc. v. Rainbow Early Educ. Holding LLC*, 887 F.3d 610, 618 (4th Cir. 2018))).

proceedings. The parties have agreed to brief the issue of attorneys' fees separately at a later time. That leaves Motorola's requests for unpaid royalties and interest.

A. Royalties

The royalty order provides:

Hytera shall make payments to Motorola Solutions in the amount of \$80.32 USD per terminal (portable or mobile) and \$378.16 per repeater (subject to any revised rates ruled otherwise after the exhaustion of all pending appellate proceedings) on a particular unit's first Sale to an unaffiliated third party.

[1349] § 4.1.

As explained above, by failing to pay the amounts due under the royalty order, Hytera violated that order. At this juncture, the purpose of imposing a contempt sanction is "to compensate [Motorola] for losses caused by [Hytera's] contemptuous actions." *Tranzact Techs., Inc.*, 406 F.3d at 855. The first step toward remedying Hytera's contempt is thus to order Hytera to pay the unpaid royalties.

Hytera, however, challenges the order's royalty rate, arguing that the rate must be reduced in light of the Seventh Circuit's July 2, 2024 decision regarding Motorola's copyright and trade secret damages. Hytera advances three arguments.

First, Hytera argues that because the Seventh Circuit held that the copyright damages in this case are limited to U.S. sales, the court must similarly limit royalty damages to U.S. sales. This might be true, perhaps, if the contempt finding was based on violation of Motorola's *copyrights*. But as explained above, the court does not reach the copyright issue as part of this contempt finding. Moreover, the royalty order does not contain a geographic limitation, nor does it otherwise suggest royalties are only available for U.S. sales. Thus, Hytera's first argument is not persuasive.

Second, Hytera argues that, even if the royalty order applies to the H-Series, the royalty *rate* set by the order applies only to the precise products identified in the order and not to the H-Series. [1717] at 26. Thus, Hytera contends, the court must apportion the royalty award as applied to the H-Series to account for Hytera's unique contributions. But this is simply another way of saying that the royalty order does not cover the H-Series. As explained above, it does. Accordingly, because the H-Series is covered by the royalty order, Hytera was obligated to pay the royalty rate set in the order.

Third, Hytera asks the court to reapportion the royalty rate in light of the Seventh Circuit's decision regarding Motorola's copyright and trade secret damages. Specifically, Hytera argues that Judge Norgle's reasoning in setting the royalty rate

was “identified as error” by the Seventh Circuit and that the failure to apportion the damages awards “infected the royalty rate.” [1717] at 126–27.

To evaluate this argument, it is necessary to discuss Hytera’s and Motorola’s arguments on appeal and the Seventh Circuit’s subsequent decision. Before the Seventh Circuit, Hytera challenged (among other things) Judge Norgle’s copyright damages award, trade secrets award, and royalty order.¹⁵ Specifically, Hytera argued that Judge Norgle erred by not apportioning the copyright and trade secret damages awards to account for Hytera’s unique contributions to the adjudicated products. *See* Opening Brief and Required Short Appendix of Defendant-Appellant at 23–39, *Motorola Sols.*, 108 F.4th 458, No. 22-2370, 2022 WL 17217059, at *23–39. Rather than permitting Hytera to present evidence showing that not all its profits were “proximate[ly]” caused by Motorola’s trade secrets and copyrights, the court held that because Motorola’s trade secrets and copyrights were the “but for” cause of Hytera’s profits, an award of all Hytera’s profits was appropriate. *See id.* at 36–39.

As to the royalty order, Hytera argued that Judge Norgle “repeated” the same erroneous failure to apportion and instead awarded a royalty “equivalent to 100% of Hytera’s expected profits.” *Id.* at 39. Thus, Hytera contended that if the Seventh Circuit vacated the damages award, “the district court’s ordered royalty rate must be vacated too.” *See* Combined Reply and Cross-Appeal Response for Hytera at 31, *Motorola Sols.*, 108 F.4th 458, No. 22-2370 (quoting [1289] at 34).

In its response brief, Motorola countered that Judge Norgle properly accounted for Hytera’s unique contributions but nonetheless properly found that Motorola’s trade secrets were critical to the functionality of Hytera’s products. *See* Combined Opening and Response Brief and Required Short Appendix for Plaintiffs-Appellees at 31–36, *Motorola Sols.*, 108 F.4th 458, No. 22-2370. Regarding the royalty order, Motorola pointed out that Judge Norgle computed the royalty order “based on the hypothetical-negotiation framework”—a framework that attempted to approximate a royalty based on a hypothetical negotiation. *Id.* at 43. *See generally* [1289] at 7–9 (explaining the hypothetical negotiation framework). According to Motorola, though application of these factors resulted in a rate corresponding to 100% of Hytera’s expected profits, the rate was fair considering the parties’ hypothetical bargaining positions. Judge Norgle had held that in a hypothetical negotiation, Motorola would have “no other incentives to license the use of its trade secrets and copyrights to a rigorous global competitor, which has been found liable for willful trade secret misappropriation and copyright apportionment.” *Id.* at 44 (quoting [1289] at 38–39).

¹⁵ While the jury initially awarded Motorola nearly \$765 million, Judge Norgle later held that this award was advisory and that the court should decide the awards because they were “equitable in nature.” [1088] at 32. Accordingly, Judge Norgle reduced the damages award based on his own findings. [1100].

Thus, even if the rate did not fully account for Hytera's unique contributions, the rate was fair.

Ultimately, the Seventh Circuit affirmed in part and reversed in part. *First*, the court agreed with Hytera that the district court needed to take a "fresh look" at the copyright damages and permit Hytera to present a "proximate cause" theory of apportionment. *Motorola Sols.*, 108 F.4th at 476–78.¹⁶ *Second*, the court held that the same reasoning applied to the trade secret damages, but that the failure to apportion was harmless error. *Id.* at 488–89. *Third*, the court reversed the denial of Motorola's motion to reconsider the denial of its motion for a permanent injunction. *Id.* at 502–05.¹⁷

After discussing copyright damages, trade secret damages, and the motion for a permanent injunction, the Seventh Circuit concluded its opinion as follows:

The judgment of the district court is REVERSED IN PART with respect to the availability of copyright damages for Hytera's extraterritorial sales, Hytera's entitlement to prove apportionment of its copyright damages under a proximate-cause theory, and the denial of Motorola's Rule 60(b) motion for reconsideration of the denial of injunctive relief. The case is REMANDED for further proceedings on those issues consistent with this opinion. In all other respects, the judgment of the district court is AFFIRMED.

Motorola Sols., 108 F.4th at 505–06.

As both Motorola and Hytera acknowledge, the Seventh Circuit did not explicitly discuss Hytera's challenge to the royalty order. In its petition for rehearing and rehearing en banc, Hytera argued that the "panel never addressed Hytera's challenge to the royalty order." See Petition for Rehearing and Rehearing *En Banc* at 15, *Motorola Sols.*, 108 F.4th 458, No. 22-2370. In a summary order, the Seventh Circuit denied Hytera's petition for rehearing and rehearing en banc. *Motorola Sols., Inc. v. Hytera Comm'cns Corp.*, No. 22-370, 2024 WL 4416886 (7th Cir. Oct. 4, 2024).

¹⁶ The court explained that it did not endorse Hytera's arguments that the court should have reduced the copyright damages award to account for Hytera's unique contributions. *Motorola Sols.*, 108 F.4th at 478. "The problem [was] that the district court did not engage with" Hytera's arguments. *Id.* "Even a willful infringer like Hytera is entitled to offer a proximate-cause theory for apportionment." *Id.* The court concluded: "The district court erred in denying Hytera the opportunity to prove that theory and instead requiring Hytera to disprove but-for causation." *Id.*

¹⁷ The court also addressed Hytera's challenges related to the extraterritoriality of the Copyright Act and the DTSA as well as Hytera's due process challenges to the DTSA punitive damages award.

Now Hytera asks this court to reevaluate the royalty order based on the same argument it raised in the Seventh Circuit. Hytera argues that Judge Norgle did not apportion the royalty rate to account for Hytera's unique contributions. But because Hytera raised its apportionment challenge to the royalty order in the Seventh Circuit and the Seventh Circuit affirmed that portion of the judgment, the mandate rule forecloses Hytera's apportionment challenge on remand.¹⁸

Under the mandate rule, a district court must "adhere to the commands of a higher court on remand." *Carmody v. Bd. of Trs. of Univ. of Ill.*, 893 F.3d 397, 407 (7th Cir. 2018). The Seventh Circuit's mandate controls "matters within its compass." *Moore v. Anderson*, 222 F.3d 280, 283 (7th Cir. 2000) (internal quotation marks omitted). To apply this rule, district courts must consider "what issues were actually decided by the mandate," which requires a "careful reading of the reviewing court's opinion." *Fed. Trade Comm'n v. Credit Bureau Ctr., LLC*, No. 17 C 194, 2021 WL 4146884, at *3 (N.D. Ill. Sept. 13, 2021) (quoting *Moore*, 222 F.3d at 283–84); *see also* Fed. R. App. P. 41(a) ("Unless the court directs that a formal mandate issue, the mandate consists of a certified copy of the judgment, a copy of the court's opinion, if any, and any direction about costs.").

"The law of the case doctrine is a corollary to the mandate rule and prohibits a lower court from reconsidering on remand an issue expressly or impliedly decided by a higher court absent certain circumstances." *United States v. Adams*, 746 F.3d 734, 744 (7th Cir. 2014). On remand, the district court "may address only (1) the issues remanded, (2) issues arising for the first time on remand, or (3) issues that were timely raised before the district and/or appellate courts but which remain undecided." *United States v. Morris*, 259 F.3d 894, 898 (7th Cir. 2001).

To determine the scope of the remand, the district court must consider the "language of the order of remand" as a whole. *United States v. White*, 406 F.3d 827, 831 (7th Cir. 2005). "There is no formula for determining its scope." *Id.* "The court may explicitly remand certain issues exclusive of all others; but the same result may also be accomplished implicitly." *United States v. Husband*, 312 F.3d 247, 251 (7th Cir. 2002).

The fact that an appellate court does not discuss an issue in its opinion does not mean that it did not address the issue. Litigants may present a bevy of challenges and arguments on appeal. But, as the Seventh Circuit has explained, an appellate court need not discuss every argument made by the litigants. *See, e.g., Mullen v. Butler*, 91 F.4th 1243, 1252 (7th Cir. 2024) (citing *United States v. Cunningham*, 429 F.3d 673, 678 (7th Cir. 2005)). Like any other federal court, the Seventh Circuit

¹⁸ The parties did not invoke the mandate rule in their briefing on remand. However, because of the mandate rule's structural underpinnings, *see* Bryan A. Garner et al., *The Law of Judicial Precedent* 460 (2016) (noting the "structural basis for the mandate rule"), the court will nevertheless address the issue.

“often let[s] issues pass in silence.” *Affymax, Inc. v. Ortho-McNeil-Janssen Pharms., Inc.*, 660 F.3d 281, 285 (7th Cir. 2011).

But that silence does not mean that the mandate rule does not apply. On the contrary, “silence on an issue raised on appeal means ‘it is not available for consideration on remand.’” *United States v. Barnes*, 660 F.3d 1000, 1006 (7th Cir. 2011) (quoting *Husband*, 312 F.3d at 251). “In such a case the implication is that for arguments not addressed in the remanding opinion the two possibilities are that ‘[the appellate court] thought so little of the point that [it] did not see a need to discuss it, or [the party] did not invoke . . . and thereby waived the point.’” *Husband*, 312 F.3d at 251. In either event, the issue is not available for consideration on remand.

Here, Hytera raises the same royalty apportionment argument it already presented before the Seventh Circuit. *Compare* Opening Brief at 39–41 (arguing that the district court “repeated its errors” regarding apportionment in setting the royalty rate), *and* Combined Reply and Cross-Appeal Response at 31 (“Necessarily, all of the errors Hytera raises on appeal were premises of that hypothetical negotiation.”), *with* [1717] at 126 (“[T]here can be no question that the error in failing to apportion damages infected the royalty rate.”). In both its opening brief and its reply in the Seventh Circuit, Hytera argued—as it does now—that Judge Norgle erred in setting the royalty rate by not accounting for Hytera’s unique contributions to the products subject to the royalty and instead awarding a royalty equal to one hundred percent of Hytera’s profits. And Motorola devoted an entire section of its response brief in the Seventh Circuit to addressing Hytera’s argument.

In the end, the Seventh Circuit did not explicitly discuss Hytera’s argument. But whether Hytera’s argument “was rejected sub silentio or was surrendered, it [is] unavailable on remand.” *See Barrow v. Falck*, 11 F.3d 729, 731 (7th Cir. 1993).

The final paragraph of the Seventh Circuit’s opinion cements this conclusion. The Seventh Circuit reversed the judgment “with respect to [1] the availability of copyright damages for Hytera’s extraterritorial sales, [2] Hytera’s entitlement to prove apportionment of its copyright damages under a proximate-cause theory, and [3] the denial of Motorola’s Rule 60(b) motion for reconsideration of the denial of injunctive relief.” *Motorola Sols.*, 108 F.4th at 505. And it remanded “for further proceedings on those issues.” *Id.* (emphasis added). But it affirmed the judgment “[i]n all other respects.” *Id.* at 506.

This language confirms that the Seventh Circuit’s mandate limits the district court’s role on remand to (1) assessing the “availability of copyright damages for Hytera’s extraterritorial sales,” (2) considering Hytera’s “proximate-cause theory” of apportionment as to the copyright damages, and (3) reconsidering the “denial of Motorola’s Rule 60(b) motion for reconsideration.” *Id.* at 505. The Seventh Circuit did not remand for the district court to reassess or apportion the royalty rate. On the contrary, the Seventh Circuit affirmed the district court’s judgment “[i]n all other

respects.” *Id.* at 506. That includes affirmance with respect to Hytera’s apportionment challenge to the royalty rate.

For these reasons, the rates set in the royalty order are controlling.

* * *

In sum, the damages to Motorola from Hytera’s contempt are properly compensated through an order requiring Hytera to pay the unpaid royalties.

Both parties agree Hytera sold hundreds of thousands of its H-Series products from the time of their release in Q4 2021 through Q1 2024. Motorola’s damages expert, James Malackowski, calculated Hytera’s unpaid royalties based on sales data disclosed by Hytera. This data shows worldwide sales of [REDACTED] radios and [REDACTED] repeaters from Q4 2021 through Q1 2024. [1736-3] (Malackowski 2d Supp. Rep.) at 6.

[REDACTED] This yields an unpaid royalty amount of \$58,533,247.¹⁹

B. Additional Units

Malackowski calculated the unpaid royalties owed to Motorola based on data Hytera disclosed as part of the discovery related to these contempt proceedings. *See* [1681-30] (Malackowski Rep.) at 13 (“I have relied upon HYT1973-23512210 in calculating royalties owed in this matter . . .”). But Motorola argues that the data Hytera disclosed in the parties’ parallel patent dispute²⁰ reveals that Hytera sold an additional [REDACTED] radios that Motorola argues are also subject to the royalty order. *See* Malackowski 2d Supp. Rep. at 7; *id.* app. 6.1.

Hytera representative [REDACTED] was deposed regarding the apparent discrepancy. Malackowski then submitted a supplemental expert report that calculated additional royalties and interest owed for the alleged additional units. [1681-26] (Malackowski Supp. Rep.) at 6–7. In response, Dr. Debra Aron (Hytera’s

¹⁹ Initially, Malackowski calculated a slightly higher amount of \$58,607,242. [1681-30] (Malackowski Rep.) at 6. But in response to the report of Dr. Debra Aron—Hytera’s expert—Malackowski recalculated the royalty award after correcting the data. Malackowski 2d Supp. Rep. at 6. While (as discussed below) Motorola argues that it is also entitled to royalties for an additional [REDACTED] units based on data produced in the parallel patent case, it does not argue that it is entitled to more than the damages calculated in Malackowski’s second supplemental report for the units included in the data produced in this case. *See* [1736] at 75–76 (noting that [REDACTED]).

²⁰ *Motorola Sols., Inc. v. Hytera Commc’ns Corp. Ltd.*, No. 1:17-cv-01972 (N.D. Ill.).

expert), submitted a report. [1701-1] (Aron Rep.). She explained that the patent case data contains entries that reflect “[redacted]” *Id.* ¶ 17.

[redacted] See *id.* ¶¶ 23–24; [1681-32] ([redacted] Dep.) 55:17–21. According to Dr. Aron, because [redacted]

[redacted] Aron Rep. ¶¶ 23, 25

[redacted] Thus, according to Dr. Aron, ordering Hytera to pay royalties on the additional units would overlook “the possibility that some or all of the units sold in the last two quarters of the Royalties Case Data appear in the upstream (Patent Case) data in earlier quarters.” Aron Rep. ¶ 29 (emphasis omitted). According to Hytera, this means that forcing it to pay for the “additional units” would constitute double counting.

Motorola asserts that there is no evidence verifying that these “upstream” sales will eventually reach Hytera U.S. rather than being sold to other third parties or end users. Malackowski further states he was “not able to use Mr. [redacted] testimony” to verify Hytera’s contention. Malackowski Supp. Rep. at 7 (“I have not seen documents showing that Hytera’s U.S. subsidiaries have purchased all of the radios [redacted]” Motorola argues that it is entitled to royalties for the additional units.

“When the calculation of damages is impeded by incomplete records of the infringer, adverse inferences are appropriately drawn.” *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1572 (Fed. Cir. 1996) (citation omitted). This is because “[f]undamental principles of justice require” the court to “throw any risk of uncertainty upon the wrongdoer rather than upon the injured party.” *Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc.*, 761 F.2d 649, 655 (Fed. Cir. 1985).

Hytera could have produced evidence that Hytera US (or other subsidiaries) have purchased (or will purchase) the additional units. Instead, Hytera relies on Dr. Aron’s report. But Dr. Aron does not offer any examples from the patent case data. Rather, she relies on hypothetical “illustrative data,” allegedly showing that Malackowski “fails to account for the *possibility* that some or all of the units sold in the last two quarters of the Royalties Case Data appear in the upstream (Patent Case) data in earlier quarters.” Aron Rep. ¶¶ 27–29 (emphasis omitted; emphasis added). Hytera has not produced the data, nor has it produced any documents or other support for Dr. Aron’s hypothesis.

Moreover, Hytera's argument that Malackowski's methodology will *necessarily* result in double counting is not persuasive, because the royalty applies only to "a particular unit's *first* Sale to an unaffiliated third party." [1349] § 4.1 (emphasis added). Thus, subsequent sales of a unit that has already been sold to an unaffiliated third party do not incur royalty obligations. But Hytera's argument that sales reflected in the patent case data represent such subsequent sales is entirely speculative; it has not presented any evidence that any unit is in fact double counted.

In the absence of any records showing that Hytera's additional units reflect upstream sales already accounted for, the court construes the gap in the data against Hytera. *See Linear Tech. Corp. v. Micrel, Inc.*, No. C-94-1633 MHP, 2006 WL 8425047, at *27–28, *78 (N.D. Cal. 2006) (infringer was not entitled to reduction in damages based on assertion of intervening rights for products allegedly in inventory at the time the patent was issued; though expert claimed he relied on data disclosed by the infringer, the infringer did not "produce all the underlying database information" and "[g]iven the lack of documentation," the court could not verify the infringer's claim). Hytera must pay royalties on the additional sales identified in the patent case data.

Pursuant to the royalty order, Motorola is entitled to an additional \$767,377 for the additional sales reflected in the patent case data. *See Malackowski* 2d Supp. Rep. at 7. Therefore, the total amount of unpaid royalties is \$59,300,624.

C. Interest

The parties dispute whether the royalty order's late payment provision requires simple or compound interest. The order states:

Any payment hereunder which shall be delayed beyond the date required hereunder shall be subject to an interest charge of one percent (1%) per month on the *unpaid balance*, payable in United States currency, until paid.

[1349] § 5.8 (emphasis added). The dispute here concerns the meaning of the phrase "unpaid balance."

Motorola argues that the phrase "unpaid balance" implies that compound interest applies. The general rule is that interest "is to be computed on a simple rather than compound basis in the absence of express authorization otherwise." *Exxon Corp. v. Crosby-Mississippi Res., Ltd.*, 40 F.3d 1474, 1489 (5th Cir. 1995). Hytera argues that the language of the royalty order does not overcome this presumption.

The royalty order expressly authorizes compound interest. Interest accrues on the "unpaid balance" of the overdue payment. If simple interest applied, it would make more sense for the order to state that interest would accrue on the unpaid *principal* rather than the "unpaid balance." Thus, compound interest applies. *See id.*

at 1488–89 (joint operating agreement stating “the unpaid balance shall bear interest monthly” “unambiguously and as a matter of law calls for compound interest”); *Commc’ns Network Int’l Ltd. v. MCI WorldCom Commc’ns, Inc.*, No. 08-cv-7254, 2010 WL 3959601, at *9 (S.D.N.Y. Sept. 14, 2010) (interest “shall accrue upon any unpaid balance” implied compound interest); *Peerless Network, Inc. v. MCI Commc’ns Serv., Inc.*, No. 14-cv-7417, 2018 WL 3608559, at *4–5 (N.D. Ill. July 27, 2018), *rev’d in part, vacated in part on other grounds*, 917 F.3d 538 (7th Cir. 2019) (provision stating that interest would apply to the “portion of the payment not received by the due date” implied compound interest).

Applying a rate of 1% compound interest per month on the unpaid balance, Malackowski determined that the total interest owed—based on the royalties case data—is \$10,721,231. Malackowski 2d Supp. Rep. at 6. Malackowski also determined that Hytera owes an additional \$452,197 in compound interest based on the additional sales. *Id.* at 7. In total, therefore, the court will order Hytera to pay Motorola \$11,173,428 in interest pursuant to the royalty order’s late payment provision.

CONCLUSION

Motorola’s motion to hold Hytera in contempt, [1678], is granted. Hytera is hereby held in contempt for violating the royalty order. Because the H-Series is substantially like the products covered by the royalty order, Hytera is significantly violating the unambiguous order by failing to pay Motorola royalties. Additionally, Hytera failed to make a reasonable and diligent effort to comply with the order. Civil contempt is warranted to compensate Motorola for losses sustained as a result of Hytera’s violations of the royalty order. Hytera is hereby ordered to pay \$59,300,624 in unpaid royalties on H-Series products and an additional \$11,173,428 in interest.

Dated: August 22, 2025

/s/ Martha M. Pacold