Filed: March 5, 2026

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CITADEL SECURITIES LLC,

PETITIONER,

V.

HFT SOLUTIONS, LLC,

PATENT OWNER.

Case No. IPR2026-00151

U.S. Patent No. 11,575,381

PETITIONER'S RESPONSE IN OPPOSITION TO PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL OF INSTITUTION

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LIST OF EXHIBITS

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1002	Expert Declaration of Kevin B. Stanton, Ph.D.
1003	File History of U.S. Patent No. 11,575,381
1004	Synchronous Ethernet Solutions with Altera FPGAs and Silicon Labs Jitter-Attenuating PLLs (“Altera”)
1005	Altera Stratix V Handbook (“Stratix Handbook”)
1006	Any-Frequency, Any-Output Jitter-Attenuators/Clock Multipliers Si5345, Si5344, Si5342 Family Reference Manual, August 2015 (“Si5345 Manual”)
1007	A Low-Latency Library in FPGA Hardware for High-Frequency Trading (HFT) by John W. Lockwood et al., 2012 IEEE 20th Annual Symposium on High-Performance Interconnects (September 2012), https://doi.org/10.1109/HOTI.2012.15 (“Lockwood”)
1008	Plaintiff HFT Solutions’ Response in Opposition to Defendant Citadel Securities’ Motion to Dismiss
1009	Declaration of Mina Ching regarding website of Altera White Papers
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1014	“The Race to Zero Latency for High Frequency Trading” by Saul Sahoo

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1015	U.S. Patent No. 10,169,814
1016	High-Frequency Trading, A Practical Guide to Algorithmic Strategies and Trading Systems by Irene Aldridge (2013)
1017	Implementing Fractional PLL Reconfiguration with Altera PLL and Altera PLL Reconfig Megafunctions, Application Note AN-661-3.0, Altera Corporation, November 2013
1018	Exploring Algorithmic Trading in Reconfigurable Hardware by Stephen Wray (2010)
1019	HDL Chip Design, A practical guide for designing, synthesizing and simulating ASICs and FPGAs using VHDL or Verilog by Douglas J. Smith, Doone Publications (1999)
1020	UltraScale Architecture Clocking Resources – User Guide, Xilinx, April 9, 2018
1021	Chip Hall of Fame: XC2064 FPGA, IEEE Spectrum, June 30, 2017
1022	List and comparison of FPGA companies by Jeff Johnson, FPGA Developer, July 15, 2011
1023	Understanding Clock Domain Crossing (CDC) Checks and Techniques by Saurabh Verna, *et al.*, EE Times, December 24, 2007
1024	Phaselock Techniques by Floyd Gardner, Third Edition (2005)
1025	Interactive Brokers' Founder Changed Trading Forever. What He Sees Next by David Wignall, Barrons (October 2, 2025)
1026	Wall Street's Quest to Process Data at the Speed of Light by Richard Martin, Rubinow (April 21, 2017)
1027	FPGA accelerated low-latency market data feed processing by Gareth W. Morris, *et al.*, 17th IEEE Symposium on High Performance Interconnects (2009)
1028	The Once and Future Internet by Daniel Svennson, Design Lines (May 1, 2001)

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1029	An Introduction to Synchronized Internet, Embedded (March 3, 2009)
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1046	U.S. Patent No. 10,931,286

I. INTRODUCTION

The American financial system is a beacon on a hill, envied around the world as the most efficient system ever created to ensure the free flow of capital in service of American greatness. Citadel Securities is a technology-driven global market maker that delivers critical liquidity to both institutional and retail investors, and it takes pride in its role in that system. It has spent countless hours and an enormous amount of resources to develop complex and novel systems to serve and improve both market efficiency and market integrity. Meritless lawsuits asserting invalid patents not only distract from those goals but divert capital from them, as market participants are forced to defend against these meritless claims around the use of existing technologies. The patent system is designed to promote innovation—not to impose a litigation tax on it.

HFT's lawsuit does just that. HFT—which has never practiced the challenged patents—now asks the Patent Office to refuse to correct the mistaken grant of HFT's '381 patent based on ginned-up discretionary factors with little connection to the parallel district court litigation. The Director should decline HFT's invitation and institute a full review of the patentability of the '381 patent.

II. THE *FINTIV* FACTORS FAVOR INSTITUTION

The relevant factors overwhelmingly favor institution of this IPR. The '381 patent issued just over three years ago and had never been asserted prior to HFT's

present litigation campaign. And the challenged claims of the ’381 patent should never have issued. The primary references identified in Citadel Securities’ Petition (including the anticipatory reference Altera) were not before the examiner during prosecution, and the prosecution history contains no rejections for anticipation or obviousness.

The parties and the district court have invested minimal resources into the parallel district-court litigation, which is at only a very early stage. No trial date has been set, and there is no dispute that a Final Written Decision in this IPR would issue before trial. Citadel Securities’ *Sotera* stipulation, filed with this brief, eliminates any risk that the district court will adjudicate redundant invalidity challenges. In short, this Petition presents precisely the type of scenario that IPR challenges are well-positioned to address.

Lacking meaningful counterarguments, HFT’s Request for Discretionary Denial resorts to misstatement and distraction. Citadel Securities did not delay discovery or trial in the district court, through its motion to dismiss under § 101 or otherwise. On the contrary, HFT sat on its hands for months. Discovery in the district court was never stayed—HFT simply chose not to pursue it. And there has never been a realistic possibility that trial would occur prior to a Final Written Decision. HFT fails to muster *any* argument that it has “settled expectations” in the validity of the challenged claims of the ’381 patent, arguing instead that it has settled

expectations in the validity of *a different patent*. And there is no real dispute that the references cited in the Petition are prior art. HFT presents no evidence to the contrary.

Most importantly, as the Petition demonstrates, the merits of the unpatentability challenge are overwhelming. Indeed, HFT does not raise even a single challenge to the Petition's merits in its brief. IPR is the fair and efficient avenue to adjudicate the patentability of the challenged claims. The Director should decline HFT's request for discretionary denial under § 314(a) and institute this IPR.

A. A Stay in the District Court Is Likely (*Fintiv* Factor 1)

As HFT acknowledges, Citadel Securities has not yet moved to stay the district court litigation and the Board generally does "not attempt to predict" how a district court will proceed where a stay has not yet been granted. Paper 6, Patent Owner's Request for Discretionary Denial of Institution ("HFT Br.") at 4 (quoting *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative)). But it is likely that a stay would be granted if this IPR is instituted. Should the Board consider it, this factor weighs in favor of institution.

In considering whether to institute a stay pending IPR, district courts consider three factors: "(1) whether a stay will unduly prejudice or tactically disadvantage the non-moving party; (2) whether a stay will simplify the issues in question and

streamline the trial; and (3) the stage of litigation, including whether discovery is complete and a trial date has been set." *RR Donnelley & Sons Co. v. Xerox Corp.*, No. 12-cv-6198, 2013 WL 6645472, at *2 (N.D. Ill. Dec. 16, 2013) (Coleman, J.) (citing *Universal Elecs., Inc. v. Universal Remote Control, Inc.*, 943 F. Supp. 2d 1028, 1030-31 (C.D. Cal. 2013)).

Here, all three factors weigh in favor of a stay. HFT has identified no undue prejudice or tactical disadvantage it would allegedly suffer. A stay would simplify the issues and streamline trial in three separate district-court litigations by adjudicating certain validity challenges to the majority of the asserted claims. And the *HFT v. Citadel* district court litigation is in its infancy. The parties have just served their first responses to written discovery, no depositions have been taken, and neither expert discovery deadlines nor a trial date have been set. Ex. 1032, *HFT Solutions, LLC v. Citadel Securities, LLC*, No. 24-cv-13213 (N.D. Ill.) ("*HFT v. Citadel Securities*"), D.I. 70. In fact, the Court has not even set a date for a claim-construction hearing. *Id*.

HFT argues, incorrectly, that a stay is unlikely because not all asserted claims are challenged in IPR. Contrary to HFT's assertion, Judge Coleman (who is presiding over the district court litigation) has no specific "precedent" that "suggests" she would deny a stay in this circumstance. HFT Br. at 4-5. Judge Coleman's opinion in *RR Donnelley*, where only two of the six asserted patents were

subject to IPR challenge, did not treat this factor as dispositive or as having particular weight. She simply stated that it "weighs against a stay" as one factor in the balancing test (compared to a scenario where all asserted patents were challenged in IPR) and declined to implement a stay because multiple other factors—including no simplification of the issues, lack of overlap in the patents, and significant discovery efforts already undertaken—also weighed against a stay. 2013 WL 6645472, at *3.

Other courts in the Northern District of Illinois have granted stays in circumstances bearing closer resemblance to this case, where a majority of the asserted patents were challenged in IPR and where the remaining patents overlapped in subject matter with those challenged. *See, e.g. Kolcraft Enters., Inc. v. Graco Children's Prods. Inc.*, No. 15-CV-7950, 2016 WL 11940531, at *3 (N.D. Ill. Aug. 22, 2016) ("The fact that IPR is pending for only five of the seven patents at issue does not convince the Court that a stay is unwarranted, especially given the overlapping nature of the '242 Patent and the '510 Patent with the patents for which IPR has been sought."); *Baxter Int'l, Inc. v. CareFusion Corp.*, No. 15-cv-09986, 2017 WL 11624669, at *4 (N.D. Ill. May 31, 2017) ("Even though the PTAB will not review all of the claims involved in this case, there is no requirement that the PTAB institute proceedings on a certain percentage of asserted patent claims to justify a stay. Indeed, courts have granted stays when the PTAB has instituted IPR on some, but not all, of the claims at issue in a litigation."). HFT acknowledges that

all three asserted patents (including the two that are the subject of IPR petitions) encompass "much the same subject matter." HFT Br. at 11.

It is likely that the litigation in district court would be stayed if this IPR is instituted. This factor weighs in favor of institution.

B. The Early Stage of Case and Extended Time to Trial Favor Institution (*Fintiv* Factors 2–3)

Fintiv factors 2 and 3 weigh strongly in favor of institution. HFT does not and cannot dispute that the district-court litigation is at a very early stage, and that the time to trial is extended and uncertain. Contrary to HFT's suggestion, *HFT v. Citadel* is not set for trial in October 2027. The parties agreed to a schedule on which the case would be "ready for trial" in October 2027, assuming that the claim construction ruling were issued within five weeks of the hearing, and reported that to the Court. *See* Ex. 2006. But the Court has entered deadlines only through the filing of a Joint Claim Chart, and a claim construction hearing has not been set. Ex. 1032, *HFT v. Citadel Securities*, D.I. 70. As discussed in detail below, historical trends in the Northern District of Illinois suggest that trial would likely occur sometime in 2028.

Nor does HFT dispute that a Final Written Decision in this IPR would issue before trial in the district-court litigation. The district court granted a motion to set a case schedule on January 23. *Id*. HFT and Citadel Securities have each recently served their first responses to written discovery requests. No depositions have been taken, and the claim-construction process has not begun.

HFT cannot argue that *Fintiv* factors 2 and 3 weigh against institution. So it instead tries to engineer a dispute by characterizing a common motion to dismiss and its own inattention to the procedural rules as strategic gamesmanship by Citadel Securities. Both characterizations are wrong.

First, HFT says that Citadel Securities' motion to dismiss under § 101 was filed as an "intentional" and "strategic" delay tactic.[1] HFT Br. at 5-6. But contrary to HFT's assertion, Citadel Securities' § 101 motion did not delay discovery. HFT Br. at 6. As HFT is surely aware, the mere filing of a motion to dismiss does not stay discovery. *SK Hand Tool Corp. v. Dresser Indus., Inc.*, 852 F.2d 936, 945 (7th Cir. 1988). The district court never indicated that discovery was stayed (and HFT does not argue otherwise). Rather, HFT asserts that Meg Fasulo, counsel for Citadel Securities, stated via email that "discovery was stayed pending Citadel's motion to dismiss." HFT Br. at 6. But Ms. Fasulo said no such thing, as her email shows:

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[1] HFT also says it is "notabl[e]" that "Jump did not join Citadel's [§ 101] motion." HFT Br. at 6 n.4. That makes no sense. Jump had no opportunity and no basis to join Citadel's motion. The *HFT v. Jump Trading* matter is a different case with a different docket number pending before a different judge. In any event, Jump's strategic decisions about what motions to file have no bearing on the legitimacy of Citadel Securities' § 101 motion.

From: Meg Fasulo <meg.fasulo@bartlitbeck.com>
Subject: HFT v. Citadel - deadlines
Date: May 2, 2025 at 10:53:45 AM CDT
To: Dale Chang <dchang@raklaw.com>

Dale,

Since the parties have not yet negotiated deadlines, the Northern District's local patent rules are currently controlling. We propose that the parties agree to the deadlines for initial contentions that have been entered in the case against Jump Trading:

- Initial Infringement Contentions – 6/6/25
- Initial Non-Infringement, Unenforceability, and Invalidity Contentions – 7/11/25
- Initial Response to Invalidity Contentions – 8/8/25

We can negotiate the remaining schedule once Judge Coleman has resolved the pending motion to dismiss.

Please let me know if you'd like to discuss.

Best,
Meg

Meg E. Fasulo
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54 West Hubbard Street
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meg.fasulo@bartlitbeck.com

This message may contain confidential and privileged information. If it has been sent to you in error, please reply to advise the sender of the error, and then immediately delete this message.

Ex. 2010. Instead, Ms. Fasulo confirmed that "[s]ince the parties have not yet negotiated deadlines, the Northern District[] [of Illinois's] local patent rules are currently controlling." *Id.*

Under those Local Patent Rules, fact discovery "commence[d] upon the date for the Initial Disclosures under LPR 2.1," which was April 28, 2025. *See* Ex. 1033, Northern District of Illinois Local Patent Rules at 1.3; Ex. 1034, *HFT v. Citadel Securities*, D.I. 34; Exs. 1035-1036, initial disclosures as exchanged by the parties in *HFT v. Citadel Securities*. HFT simply chose not to pursue fact discovery for nine

months. Presumably HFT did not want to expend resources prior to a ruling on the motion to dismiss given the significant chance that Citadel Securities would prevail. Regardless, HFT cannot reasonably argue that the IPR should not be instituted because it chose to put off pursuing discovery in the district court case. Discovery was never stayed.

HFT's characterization also assumes that Citadel Securities' § 101 motion was substantively meritless and destined to lose. That is wrong. It is axiomatic that a motion is not inherently meritless just because it does not succeed. *Cf. SFA Sys., LLC v. Newegg Inc.*, 793 F.3d 1344, 1348 (Fed. Cir. 2015) ("A party's position on issues of law ultimately need not be correct for them to . . . be found reasonable."). That is especially true for § 101 motions, where judges and practitioners have repeatedly asked the Supreme Court for additional guidance. *See, e.g.*, Ex. 1037, Matthew G. Sipe, *Patent Law 101: The View from the Bench*, 80 GEO. WASH. L. REV. 21, at 23 (April 2020) (collecting citations). Despite the uncertainty in application of § 101 law, over 60% (110 of 174) of motions to dismiss for subject matter ineligibility under § 101 were fully or partially granted nationwide in 2024 and 2025. *See* Ex. 1038, Docket Navigator Analytics. There was nothing unreasonable about Citadel Securities moving the district court to consider the issue. And indeed, the Court's "long consideration" of the motion suggests that it warranted careful consideration. HFT Br. at 2. In any event, the length of that

consideration was outside Citadel Securities' control. Not prevailing on a common (and often successful) motion can hardly be characterized as an attempt at "strategic delay."[2]

Second, HFT claims that but for Citadel Securities' § 101 motion, trial on a "normal schedule" in the district court would have occurred before a Final Written Decision in this IPR (*i.e.*, before June 2027). HFT Br. at 5-6. But that claim is not realistic. The median and average time to trial in patent cases in N.D. Ill. are 38 and 44 months respectively, which suggests that trial is most likely to occur in sometime in 2028 (not March 2027). *See* Ex. 1039, Docket Navigator Analytics.

Worse, HFT's conclusion that trial against Citadel Securities would have gone forward in March 2027 is based on a clear misinterpretation. The March 26, 2027 date in HFT's case against Jump Trading (in which the same patents are asserted) is not a trial date but a "case ready for trial" date. Ex. 1040, *HFT Solutions, LLC v. Jump Trading, LLC*, No. 24-cv-13214 (N.D. Ill.) ("*HFT v. Jump Trading*"), D.I. 30-1 at 3 (Apr. 21, 2025). It is the earliest possible date after which trial *could* occur, and it is conditioned on multiple events and deadlines occurring without extension

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[2] It also does not indicate that Citadel Securities will not ultimately prevail in its position that the asserted claims are directed to patent ineligible subject matter. Citadel Securities may raise this issue on appeal if necessary.

or modification, including the Court quickly issuing a claim-construction ruling five or fewer weeks after the claim construction hearing. *Id*. (providing the "Ready for Trial" date as "3/26/27 or 20 weeks after the filing of dispositive motions, whichever is later," which is in turn based on other scheduled deadlines).

In any event, Citadel Securities was not the cause of extensions to the case schedule. *HFT v. Citadel Securities* and *HFT v. Jump Trading* were on substantially the same schedule until October 2025, six months after Citadel Securities filed its motion to dismiss. *Compare, e.g.*, Ex. 1041, *HFT v. Citadel Securities*, D.I. 46 (Aug. 29, 2025) (extending deadlines for the parties' contentions pursuant to joint motion)) *with* Ex. 1042 (*HFT v. Jump Trading*, D.I. 42 (Sept. 2, 2025) (extending deadlines for parties' contentions pursuant to joint motion)). It was HFT's request to extend deadlines for the parties' contentions that first decoupled the schedule in *HFT v. Citadel Securities* from that in *HFT v. Jump Trading*. Ex.1043, *HFT v. Citadel Securities*, D.I. 52 (Oct. 28, 2025).

Then, in December 2025, Citadel Securities' counsel sent a letter to HFT notifying HFT that their infringement contentions were deficient. *See* Ex. 1044, Letter from Kelson to Chang (Dec. 26, 2025). The parties then *jointly* moved the Court to enter a schedule in *HFT v. Citadel Securities* that extended the schedule further past that in *HFT v. Jump Trading*, including an opportunity for HFT to supplement its deficient contentions. Ex. 1045 (*HFT v. Citadel Securities*, D.I. 66

(Jan. 22, 2026) (Joint Motion to Extend and Set Deadlines)); Ex. 1032 (*HFT v. Citadel Securities*, D.I. 70 (Jan. 23, 2026) (granting same)). It was HFT's deficient infringement contentions, not any dilatory behavior by Citadel Securities, that precipitated the parties' negotiated joint request for an extension of the schedule.

C. The Proceedings Will Not Overlap (*Fintiv* Factor 4)

Citadel Securities has filed a *Sotera* stipulation. Paper 9. This resolves what HFT claims was a "[c]ritical[]" omission, HFT Br. at 7, and negates HFT's argument that this factor weighs against institution. If this IPR is instituted, the invalidity grounds considered by the Board will not duplicate those considered by the district court.[3] In view of Citadel Securities' *Sotera* stipulation, this factor weighs heavily in favor of institution.

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[3] It is not clear why HFT notes that "Citadel maintains a counterclaim" regarding the subject matter ineligibility of HFT's patents under § 101. HFT Br. at 8. Citadel Securities has appropriately preserved that issue for appeal and is not attempting to re-litigate it in district court. In any event, litigation in district court of potential invalidity challenges which the Board lacks the statutory authority to adjudicate, such as §§ 101 and 112, does not result in any overlap between IPR and district court proceedings.

HFT argues that the district court is a better forum because there will be a protracted factual dispute about the prior-art status of the references cited in the Petition. HFT Br. at 7-8. That argument is baseless. The prior-art status of the references cited in the Petition is not a close question. Altera is a *white paper*—a document created for the purpose of issuing publicly. Paper 2, Petition for *Inter Partes* Review ("Petition") at 9-11; Ex. 1004 (Altera). The Stratix Handbook and the Si5345 Manual are technical manuals deliberately made public by manufacturers to inform customers about how to use the relevant products. Petition at 11-17, 13; Ex. 1005 (Stratix Handbook); Ex. 1006 (Si5345 Manual). Citadel Securities filed as exhibits to the Petition declarations confirming the public availability (on the internet) of each of these references as of the priority date. Ex. 1009; Ex. 1010; Ex. 1011. And Lockwood is a technical article published in the proceedings of an Institute of Electrical and Electronics Engineers (IEEE) symposium. Petition at 17-20; Ex. 1007 (Lockwood). The question of whether these are printed publications is not a close call. Each plainly is, on its face.

Notably, HFT does not identify *which* of the references asserted in the Petition allegedly will be the subject of dispute, because HFT has no non-frivolous arguments as to the prior-art status of any of them. HFT Br. at 7-8. The Board is more than capable of adjudicating the prior-art status of the asserted references,

especially in the absence of any actual evidence that they are not prior art (of which HFT has cited none).

D. HFT Asserts the Same Patents Against Multiple Parties (*Fintiv* Factor 5)

Citadel Securities does not dispute that it is the defendant in *HFT v. Citadel Securities*, one of the lawsuits that HFT has filed in district court. But HFT has also sued two other parties (Jump Trading and Optiver) asserting the same patents, including the challenged '381 patent. *HFT v. Jump Trading*; *HFT Solutions, LLC v. Optiver US LLC, et al.*, No. 25-cv-415 (W.D. Tex.). These three cases are pending before three different judges, on three different schedules, in two different judicial districts. Instituting this IPR would thus allow the PTAB to centrally resolve validity issues that would otherwise need to be addressed multiple times over in less efficient forums, mitigating the risk of inconsistent decisions and streamlining at least three district court cases. Instituting IPR is therefore *more* efficient than allowing all three of HFT's cases to proceed in district court. This factor does not weigh in favor of discretionary denial.

E. Other Considerations Support Institution (*Fintiv* Factor 6)

As between the PTAB and the district court, the PTAB is the superior venue to assess the patentability of the challenged patent. The '381 patent and related patents present a complicated factual background in the highly technical field of low-latency trading, which makes the PTAB the best forum to decide the validity of the

challenged claims. The PTAB, comprised of Administrative Patent Judges paneled based on expertise in the relevant technology space, is best suited to understand and address the technical issues raised. That is doubly true here where the claims use convoluted, verbose language to try to obscure an "invention" that is actually relatively simple.

This would also be the first time that the Patent Office would meaningfully engage with the patentability of HFT's patents. The Petition does not re-hash arguments made during prosecution, and instead makes a strong *prima facie* showing of error in granting the challenged claims. The primary references cited in the Petition were not before the patent examiner during prosecution. *See* Ex. 1001 ('381 patent). In particular, the anticipatory reference Altera reference was located by Citadel Securities' engineers, who are persons of (at least) ordinary skill in the relevant field, through a Google search using the terms "FPGA PLL synchronous ethernet," which returned the Altera white paper on the first page of search results. Altera was not art of record during prosecution. *Id*. The only non-patent database searched by the examiner was the IBM Technical Disclosure Bulletin (IBM_TDB), *see, e.g.*, Ex. 1003 at 124-127 (listing databases searched), which does not contain Altera. The only non-patent literature in the prosecution history was identified by the applicant, and the prosecution history contains no rejections for anticipation or obviousness. *See generally* Ex. 1003 ('381 patent prosecution history). These

circumstances strongly support institution so that the Patent Office may revisit and correct its determination of the patentability of the challenged claims in view of Altera.

III. ADDITIONAL FACTORS SUPPORT INSTITUTION

As discussed in detail below, the additional considerations identified in the Acting Director's March 26, 2025 Memorandum regarding Interim Processes for PTAB Workload Management ("March 26 Memo") also support institution.

Prior Adjudication: No tribunal has ever adjudicated the patentability or validity of the '381 patent over challenges that overlap with the Board's jurisdiction in this IPR. That the district court has ruled on Citadel Securities' motion to dismiss under § 101 does not weigh against institution. The Board cannot adjudicate patent eligibility under § 101, and the issue of subject matter eligibility will be reviewed *de novo* on appeal from the district court if necessary.

Even so, HFT's statement that "the Court rejected this [§ 101] challenge as particularly weak," HFT Br. at 10, is untrue. HFT cites no basis whatsoever in the district court's opinion to justify this characterization, because there is none. The district court did describe one aspect of Citadel Securities' argument—that the asserted claims amount to the manipulation of data—as "reductive." Citadel Securities disagrees with that description, but it has no bearing either way on the IPR institution determination.

This factor weighs in favor of institution.

Changes in Law or Precedent: In the short time since the ’381 patent issued, Citadel Securities is unaware of specific changes in law or precedent that affect its patentability. This factor is neutral.

Strength of the Challenge: The Petition speaks for itself—the merits of the unpatentability challenge are overwhelming. For example, Altera is a rare instance of a truly anticipatory reference that, standing alone, invalidates most of the challenged claims. The challenged claims are not and were never patentable. The primary references identified in the Petition were not before the examiner during prosecution. If they had been, the challenged claims should not and likely would not have issued.

HFT provides no support for its unfounded suggestion that the Board should pre-judge the merits of the Petition because certain facts, like the commercial availability of FPGAs and PLLs decades before the priority date, were also mentioned in Citadel Securities’ § 101 motion. HFT Br. at 10-11. HFT’s argument that Citadel Securities’ unsuccessful § 101 motion lacked merit is without any basis, but in any event, the merits of that motion based on § 101 are unrelated to the merits of the Petition based on §§ 102 and 103.

Other than its improper analogy to Citadel Securities’ § 101 motion, HFT does not engage with the merits of the Petition, instead stating that HFT “will address the

merits of Citadel[] [Securities'] Petition in its Preliminary Response." HFT Br. at 2. This omission also speaks for itself. And by declining to engage with the merits of the petition at this stage, HFT deprives Citadel Securities of any opportunity to respond to HFT's potential arguments that the merits of the petition allegedly weigh against institution. HFT therefore waives any such argument.

This factor weighs strongly in favor of institution.

<u>Expert Testimony:</u> Citadel Securities submitted with its Petition a declaration of Kevin B. Stanton, Ph.D. *See* Ex. 1002. The extent of the Petition's reliance on expert testimony supports institution. Citadel Securities relies on Dr. Stanton "to explain the background knowledge of a person of ordinary skill in the art." *iRhythm Techs., Inc. v. Welch Allyn, Inc.*, IPR2025-00377, Paper 10, 2-3 (PTAB Jun. 6, 2025). As in *iRhythm*, Dr. Stanton "provides citations to evidence in support of his statements in the required manner," and "Patent Owner does not identify any portions of the expert testimony that suggest Petitioner is using its expert to fill gaps in the prior art." *Id.*; *see* HFT Br. at 12.

HFT's only mention of Dr. Stanton's declaration is to note its length. HFT Br. at 12. That misses the point. The Director has rejected arguments that apply this consideration as a simple counting of the pages of an expert declaration. *Twitch Interactive, Inc. v. Razdog Holdings LLC*, IPR2025-00307, Paper 18, 3 (Dir. May 16, 2025). The length of Dr. Stanton's declaration is driven by the unnecessarily

verbose nature of the challenged claims coupled with the regulatory requirement that each of his opinions "disclose the underlying facts or data on which the opinion is based." 37 C.F.R. § 42.65(a).

In addition to being misplaced, this criticism is also exaggerated. HFT compares the length of the *entire* declaration (including Dr. Stanton's recitation of his qualifications, legal and technical background information, overview of the prior art, language of the claims, etc.) to only the *merits section* of the Petition. HFT Br. at 12. In truth, the merits sections of the Petition and Dr. Stanton's declaration are approximately the same length (57 and 65 pages respectively). *Compare* Petition *with* Ex. 1002.

Settled Expectations: HFT attempts to contort the principle of settled expectations, alleging that it has settled expectations of the validity of the challenged '381 patent based on its (incorrect) claim that it has settled expectations of the validity of *a different patent* (HFT's '286 patent). HFT Br. at 11-12. This framing is at odds with the plain language of the March 26 Memo, which refers to "the length of time *the claims* have been in force." (emphasis added). Restricting the principle of settled expectations to the specific claims at issue makes good sense. Patent families are often the subject of ongoing prosecution for years or even decades. If a patentee could bootstrap its reliance on "settled expectations" back to the issuance of the earliest related patent with "overlapping subject matter and limitations" as

HFT argues, HFT Br. at 12, the principle would lose all analytical grounding. HFT plainly has no settled expectations of validity in a patent that issued just over three years ago, has never been practiced by HFT, has never been subject to a validity challenge in any forum, and had never been asserted prior to HFT's present litigation campaign.

HFT compounds its error by misstating the issue date of its own '286 patent. HFT Br. at 11. That patent issued on Feb. 23, 2021 (not in July 2020). Ex. 1046, '286 patent. The '286 patent issued barely five years ago and had also never been asserted prior to HFT's present litigation campaign. HFT likewise has no settled expectation of validity of the '286 patent, but even if it did, that has no relevance to the institution of IPR against the '381 patent. This factor weighs in favor of institution.

<u>Economic, Public Health, or National Security Interests:</u> Economic interests strongly favor institution. HFT does not practice the challenged (or any) high-frequency trading patent. Rather, HFT seeks to stifle innovation in financial services by asserting patents that purport to claim known and regularly used hardware and techniques for high-frequency trading, which will disrupt well-established practices of Citadel Securities and other market participants in this space. The public has a strong interest in ensuring that invalid patents do not operate as a tax on American

financial infrastructure or deter innovation and investment in technology that supports liquidity and efficiency in U.S. markets.

There are no national security or public health considerations weighing in favor of denial. HFT does not argue otherwise. Citadel Securities is not controlled by any foreign entity. Nor is Citadel Securities a serial petitioner—this is the first petition Citadel Securities has ever filed.

HFT attempts to recast the efficiency of the proceedings (*i.e.*, the IPR and the district court litigation) as "a strong economic reason that the director should consider in denying institution." HFT at 12. That framing is wrong. The efficiency of proceedings implicating the challenged patent is captured in *Fintiv* factors 2 and 3, and is not a separate economic consideration. As discussed *supra*, those factors also strongly favor institution.

IV. CONCLUSION

Petitioner respectfully requests that the Director deny Patent Owner's Request for Discretionary Denial of Institution, decline to exercise discretion under § 314(a) to deny institution, and institute IPR of the '381 patent.

Dated: March 5, 2026

Respectfully Submitted,

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CERTIFICATE OF WORD COUNT AND TYPE STYLE

Under the provisions of the Interim Processes for PTAB Workload Management (March 26, 2025), the undersigned hereby certifies that the Microsoft Office word count for the foregoing Response in Opposition to Patent Owner's Request for Discretionary Denial, excluding the table of contents, table of authorities, certificate of word count, and certificate of service, totals 4,879 words, which is less than the 14,000 words allowed under the Interim Processes for PTAB Workload Management.

This Response in Opposition to Patent Owner's Request for Discretionary Denial complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft Word in 14-point Times New Roman.

Dated: March 5, 2026

Respectfully Submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the above document was served on March 5, 2026 by filing this document through the Patent Trial and Appeal Case Tracking System (P-TACTS) as well as delivering a copy via electronic mail upon the following attorney of record for Petitioner:

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